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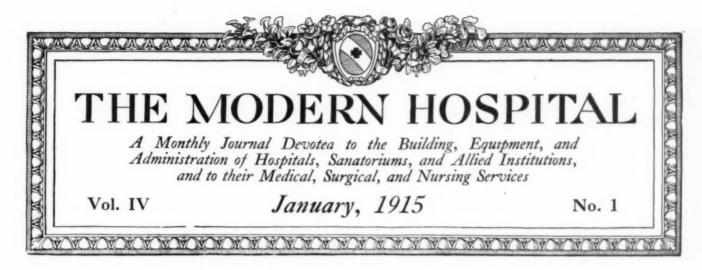
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THE NEW SAMARITAN HOSPITAL OF TROY, N. Y.

A Definite Group, Planned to Be Built by Units—Flexible Enough to Meet Any Conditions, and Arranged With a View to Convenience and Economy of Administration.

By JAMES OTIS POST, of George B. Post & Sons, Architects, New York, and S. S. GOLDWATER, M. D., Consultant, New York.

THE ARCHITECTURE.
BY JAMES OTIS POST.

THE first problem which presents itself to the architect is to arrange an elastic group plan which may be capable of being built in units and later developed still farther by units. The size, shape, and orientation of the lot is therefore of primary consideration when studying the general group plan. The wings of the ward buildings should, if possible, be planned so as to receive the maximum sunlight from the southeast to the southwest.

After carefully studying the lot obtained by the Samaritan Hospital, it was determined that the wings of the ward buildings should face People's avenue, which gives them an almost due southerly exposure, and that no buildings should be built between the ward buildings and People's avenue, in order that light and air would not be obstructed.

The first unit to be built is illustrated in heavy line in the block plan which accompanies this article, and the future extension of each unit in dotted line.

The administration building faces Beman Park on the west, and is in direct communication with the principal buildings of the group—on the one side the ward buildings, and on the other the nurses' home, with its tennis courts, etc. The power house, laundry, and garage are grouped in one building, with service courts, etc. The help's dormitory is conveniently located in the center of the lot. The contagious ward building is isolated from the other buildings of the group.

The main entrance driveway is from People's avenue adjacent to Beman Park, the principal entrance to the administration building being under cover of a porte-cochere. The ambulance driveway is planned to ultimately enter the center of the group from Burdette avenue, with a service entrance also from Burdette avenue beyond the contagious ward building. As Burdette avenue is not yet paved, the present ambulance and service drive is arranged to enter from People's avenue beyond the female ward building, which driveway will necessarily be closed when the future extension to the ward buildings is made.

The style of architecture adopted for this group of buildings is that of the English Renaissance of the Georgian period, in order to give to the buildings a cheerful domestic character rather than the cold formality which is commonly found in institutional buildings.

The materials used in the exterior are buff Indiana limestone and wire-cut brick laid up with unusually wide joints to produce the desired color and texture; the cornice and trims of the buildings are of terra cotta in imitation of the limestone.

The group of buildings, situated on the top of a hill, treated in this manner give a very pleasing effect, which is illustrated by the accompanying sketches.

The planning of the various units of this hospital were carefully worked out by the architects in consultation with Dr. Goldwater as expert in hospital management, and have many interesting features, which are discussed by Dr. Goldwater.

Burdett avenue. PUTTEL CHILDREN TAIRS A M B U L A M C L. SERVICE & OPERATING ENTRANCE -PRIVATE WARD BUILDING ADMINISTRATION SULDING

Fig. 1. Samaritan Hospital-General ground plan.

Beman Park.

THE GROUPING AND ARRANGEMENTS. BY DR. S. S. GOLDWATER.

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In the grouping of its buildings, in its facilities for the treatment of patients of different social classes, in the plan and equipment of its nurses' home, and its generously planned servants' dormitory building, the Samaritan Hospital is characteristically a modern American hospital, differing in plan, scope, and content both from typical European hospitals and from American hospitals of the previous generation.

Every institution of this kind possesses a certain purely architectural interest, and a guide to the architectural composition of the group will be found in the accompanying notes, prepared by

Messrs. George B. Post & Sons, architects, with whom the writer collaborated as consultant in the preparation of the plans. The following paragraphs refer especially to those features of the hospital which have a bearing on hospital administration and hospital economy.

BRIVE

The buildings comprised in the hospital group are a ward building for female patients, with a dependent unit for children; a ward building for male patients; a composite structure attached to the main corridor, containing kitchen, dining rooms, operating rooms, pathological and clinical laboratories, radiographic department, hydrotherapeutic department, and quarters for the resident staff; the Van Schoonhoven pavilion for pri-

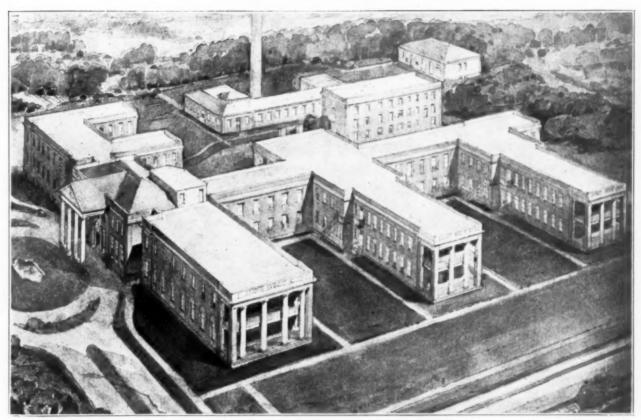


Fig. 2. Samaritan Hospital-Birdseye view of the group of buildings. George B. Post & Sons, architects.

vate patients; an "administration" building containing offices and reception rooms, out-patient department, pharmacy, and on the upper floor accommodations for private patients; the Thurman Memorial or nurses' home; the servants' dormitory; the power house and laundry; and the Price Memorial or isolation building for contagious diseases. The relation of these buildings to each

other and the location of various entrances and exits merit brief attention.

The buildings are grouped for service and not for display. An imposing entrance might easily have been designed and located at the center of the south front, facing the boulevard, but such a plan could have been adopted only at the expense of utility and of comfort. In the plan actually



Fig. 3. Samaritan Hospital-Administration and private ward buildings. George B. Post & Sons, architects.

adopted the entire south front was preserved for the use and occupancy of patients, an arrangement having very obvious advantages.

Three buildings or wings which extend from the central corridor toward the south are, from left to right or from west to east, the Van Schoonhoven building for private patients, the male ward building, and the female ward building. Each terminates at the south in a broad porch between which and the street

there is a clear margin of 80 feet, a distance which permits the free use of the porches by convalescent patients—or, for that matter, by patients who are in bed—without any loss of privacy. Viewed from the boulevard, the ward buildings, with their massive terminal porches, present a pleasing architectural composition, while the patients' outlook from the wards and porches, over the hospital lawn, the adjacent boulevard, and the

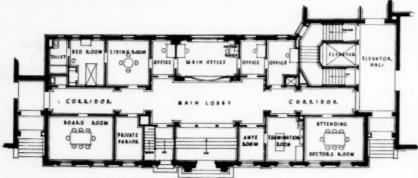


Fig. 5. Samaritan Hospital-Administration building. First floor plan.

neighboring country, is altogether delightful. These buildings are two stories in height, and the distances between them are considerably greater than the height of the buildings themselves. The main wards are exposed east, south, and west, and all of the smaller wards and rooms are exposed to the direct rays of the sun during some part of the day.

The corridor which connects the patients' build-



Fig. 6. Samaritan Hospital—Private ward building. Basement floor plan.

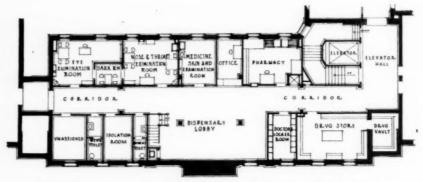


Fig. 4. Samaritan Hospital-Administration building. Basement floor plan.

ings extends from east to west, is entirely free and open on its south side, except at the points of intersection with the wards; the corridor may therefore be used in most of its length as a solarium. Along its northerly side are grouped various departments which directly serve the wards—namely, the kitchens, operating rooms, various examining and treatment rooms, and laboratories. For the more important of these a central position

has been chosen. If additional buildings should ever be required for the accommodation of patients, the main corridor could be continued to the east, where, at a suitable distance from the female ward building, additional ward wings might be erected. By means of the main corridor, visitors, patients, and staff pass freely from one part of the hospital to another without disturbing the occupants of the several wings.

The entrance to the administration building, which is also the principal entrance to the hospital, is from a private road which runs at right angles to the boulevard and parallel to the margin of the public park, which is contiguous to the hospital property. This park is overlooked by the Van Schoonhoven building, the administration building, and the Thurman Memorial building, or nurses' home. Applicants for admission to the hospital (except ambulance patients) and visitors are here received. From the main lobby the vis-

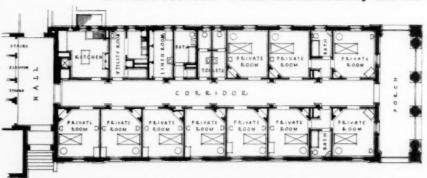


Fig. 7. Samaritan Hospital-Private ward building. First floor plan. Second floor similar.



Fig. 8. Samaritan Hospital—Emergency, service, and male ward building. Basement floor plan.

itor proceeds to the left or north if his destination is the nurses' home, and to the right or south if his objective is the patients' department. The entrance for dispensary patients is directly beside the main entrance; the dispensary vestibule may be entered directly from outdoors, or from the main hospital lobby. The ambulance entrance and the entrance for goods are to the north of the main corridor, at the basement level. The servants' dormitory building, the laundry and power house, and the Price Memorial, or isolation building for contagious diseases, are entirely detached, the latter being in the most remote part of the grounds. For the distribution of supplies, and for the domestic traffic of the hospital generally, the basement corridor will be used.

On the second or operating room floor are located all of the surgical wards for men, women, and children, and 23 out of a total of 33 private rooms; thus the only surgical patients who will have to be carried in the elevator on their way to and from the operating rooms are those occupying rooms on the first floor of the Van Schoonhoven building—a very small percentage of the whole number.

We may now consider in somewhat greater de-



Fig. 9. Samaritan Hospital—House staff, service, and male ward building. First floor plan.

tail the distinguishing features of the several buildings. In the basement of the administration building are found the out-patient department and the pharmacy. The out-patient service includes a commodious waiting hall, an isolation room for such contagious cases as may chance to present themselves for treatment without warning, separate toilet accommodations for the sexes, and examining rooms designed for a classified dispensary service, appropriately arranged for medical examinations, and for the treatment of diseases of the eye, ear, nose, and throat. An emergency room for minor surgical operations is located else-



Fig. 10. Samaritan Hospital—Operating, service, and male ward building. Second floor plan.

where. A locker room is provided for the medical attendants. Adjoining the waiting hall is the dispensing room, connected with which are drug storage rooms, including a fireproof vault. The pharmacy is placed at the angle formed by the

junction of the main corridor and the administration building, a point from which drugs can be conveniently forwarded to the wards. Though nominally in the basement, the principal rooms of the out-patient department are entirely above ground, and cross ventilation is provided for the great hall.

On the first or main floor of the administration building are a spacious vestibule and lobby, the information and business offices of the hospital, the private office of the superintendent, an examining room for applicants for admission, a cloak room for the visiting staff, a reception parlor for the friends of private patients, and the board room. Here also is the superintendent's suite, consisting of living room, bed room, and bath room. The second floor of the administration building is substantially a counterpart of the

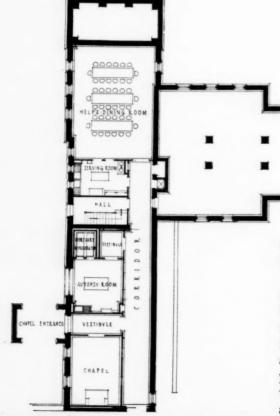


Fig. 11. Samaritan Hospital—Female and children's wards and laboratory building. Basement floor plan.

floors of the Van Schoonhoven pavilion for private patients, which will be described below.

The nurses' home or Thurman Memorial is a distinct unit, a U-shaped building, two stories and basement in height, located north of and connected on all floors with the administration building. The nurses' home has a pleasant outlook on all sides. An attractive feature is the broad porch overlooking the grounds of the hospital and the adjoining public park. The basement wings are entirely above ground, and are available for use for gymnasium and class room purposes. In



Fig. 12. Samaritan Hospital—Female and children's wards and laboratory building. First floor plan.

future they may be subdivided in whole or in part to provide additional sleeping rooms. In the main section of the basement are found a locker, dressing and rest room for nonresident nurses, a small kitchenette and hand laundry for the personal use of the nursing staff, a sewing room for the ladies' committee, and ample trunk and store rooms. On



Fig. 13. Samaritan Hospital-Contagious ward.

the first floor of the nurses' home are reception parlors and a spacious, well-lighted, and wellventilated auditorium and lecture room. The remainder of this floor and the entire second floor are devoted to living and sleeping accommodations for the nursing staff. A considerable proportion of the bed rooms are single rooms, the remainder double rooms. There is a separate built-in clothes closet for each nurse. The lavatory and toilet accommodations are liberal and are conveniently distributed. In each wash room a dental sink has been provided. The nurses' home may be entered from the hospital yard, from each floor of the administration building, and also through a private door located between the nurses' home and the administration building.

The principal stairway and elevator have been placed in an inclosed shaft situated at the junction of the administration building and the main corridor. The elevator is at a point central to the private rooms on the second or upper floor, half of these rooms being in the administration building and the other half in the Van Schoonhoven pavilion.

The Van Schoonhoven pavilion is devoted entirely to the accommodation of private patients.

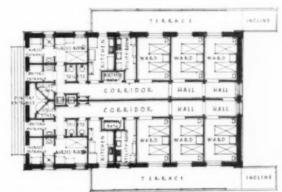


Fig. 14. Samaritan Hospital—Contagious ward building. First floor plan.

In the basement is a large serving room, where all private patients' trays will be prepared under the eye of the hospital dietitian. Dumb-waiter service connects this room with the serving rooms on the several floors. The first and second floors of the Van Schoonhoven building are identical in their

arrangement. On each floor there are 10 patients' rooms, each 12x14 feet, two private baths, a bath room for general use, water closets and lavatories for men and women, a broom and pail closet, a chart and supply room for the nurses, a clothes chute, a diet kitchen, with metal cupboards, and a large utility room, the equipment of which includes blanket warmer, drying closet, specimen closet, clinic sink, wash tub, bed-pan warmer, utensil sterilizer, solution shelves, instrument sterilizer, gas stove, and lavatory. On each floor, at the southerly extremity, is a broad porch.

The ambulance entrance is on the main corridor, between the administration building and the kitchen wing. Close by are an emergency treatment room and a detention ward with private bath. Continuing along the main corridor from

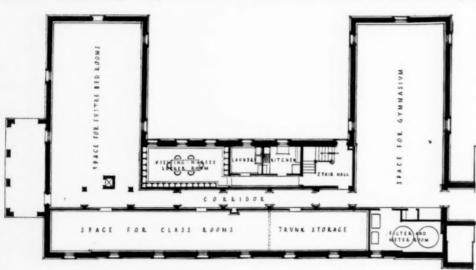


Fig. 16. Samaritan Hospital-Nurses' home. Basement floor plan.

the administration building toward the wards, one finds a linen supply and distributing room, and locker rooms and lavatories for the nonresident help. The kitchen and its accessories come next. North of the main corridor on the basement floor

are the main kitchen, with windows on three sides, the diet kitchen, bakery, cold storage for meats, fruits, vegetables, and dairy products, and the butcher shop. There is a separate entrance for receiving goods. Adjoining this entrance is the office of the receiving clerk and a room where goods may be examined, weighed, and temporarily stored; on the opposite side of the main corridor are the main grocery stores, occupying space be-



Fig. 15. Samaritan Hospital-Nurses' home.

neath the head house of the male ward building. Adjoining the main corridor, between the male and female ward buildings, are the mortuary chapel, the funeral exit, and the autopsy room; and at the easterly extremity of the corridor, be-

neath the children's wards, are a serving room and large dining room for the domestics. Since the hospital yard is excavated at the level of the basement corridor, all of these rooms are entirely above ground.

On the first floor of the composite structure to the north of the main corridor are quarters for the house staff, consisting of four bed rooms, with shower bath, lavatory, and toilet, all connected by a private corridor; the hydrotherapeutic department; clinical, bacte-

riological, and pathological laboratories; and, directly above the kitchen, dining rooms and serving rooms for nurses, officers, and house staff, and the diet class room.

On the second floor of this structure are the



Fig. 17. Samaritan Hospital-Nurses' home. First floor plan.

x-ray department, including waiting room, treatment room, and dark room; large sun rooms, which may be used if desired as additional wards; and in the space directly above the kitchen and dining room is the surgical operating plant.

The main operating rooms, two in number, have ample north and top light; between them is a sterilizing room equipped for the sterilization of water, utensils, and instruments, and supplied with a steam-heated blanket warmer, so that patients may be warmly wrapped before they are



Fig. 18. Samaritan Hospital-Children's ward and help's dormitory.

taken from the operating room. There are two anesthesia rooms, a minor operating room, a delivery or labor room for maternity cases, a dressing room for the staff, and a large, well-lighted work room for the nurses, where surgical supplies will be prepared; in an alcove are two drum sterilizers for surgical dressings. In the kitchen and



Fig. 19. Samaritan Hospital—Help's dormitory building. First floor plan.

operating room wing is a stairway which extends from basement to roof, and adjoining this stairway space has been reserved for a second elevator. Perfect ventilation is assured between the ward wings by the open corridor which connects them. Gently inclined ramps lead from this corridor to the lawn.

The male and female ward units are identical. In the ward proper are found 16 beds, with a window for each bed; the hopper transom over the double-hung sash extends to the ceiling. At the lower end of each ward is a broad porch. At the head of the ward is glass-inclosed office and chart room for the nurse. In the head house or ex-

panded section of each ward, contiguous to the main or connecting corridor, are found on one side of the 8-foot ward corridor two separation rooms and a day and dining room for convalescent patients; and on the opposite side bath room, lavatory, and toilets for patients, all with direct ventilation; linen room; nurses' toilet room; a utility room, the equipment of which is identical with the equipment of the utility rooms in the Van Schoonhoven building, which has been described above; pail and broom closet; clothes chute; and ward kitchen, with brine-cooled refrigerator, with sanitary tops, tray table, sink, ventilated garbage closet, ventilated dish-rag dryer, and portable metal cupboard with sanitary top.

The separation rooms in the ward wings, as well as the private rooms in the Van Schoonhoven and administration buildings, are supplied with silent electric calls. A synchronous electric clock system has stations in the wards and wherever else it is required. All parts of the hospital are connected by a private or interior telephone system, operated through a switchboard in the main office; and there is also an exterior system for each building.

The two children's wards, with 8 beds in each, have their own spacious porches, baths, and toilets, but, for the sake of economy, share with the adjacent female wards the use of ward kitchen and utility rooms. The children's wards as well as the main wards are exposed on three sides. The children's wards have their own small toilets and babies' bath.

Portable bath-tub closets are located off the main corridor, accessible to the wards, and each ward has its locker closet for patients' clothes.

The Price Memorial for contagious diseases is of unique design. It comprises two complete units, each with dressing, bath, and bed room for nurses; robing and wash-up room for doctors; kitchen; utility room; portable tub closet; separate toilets for patients and nurses; broom and pail closet with sink; and linen sterilizer. All of the service rooms as well as the patients' rooms have two entrances—one from the terrace and one from the interior corridor. The service rooms are arranged in duplicate at the north end of the building. The patients' rooms or wards occupying the southerly half of the structure face east and west, respectively, and are separated by a double corridor, the sections of which may be connected or disconnected at will. There are six small wards in all, three facing west and three facing east. Each ward is large enough to hold 2 beds. The arrangement of the wards or patients' rooms is such that, according to demand, from one to five rooms may be grouped together in a single series

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or working unit. The capacity of the building may be increased by the addition of patients' rooms at the southerly end of the building without in any way interfering with the continuous use of the original structure. The equipment is ample for a larger service if the city should require such a service.

Separate sterilizers are provided in the contagious building for soiled linens, dishes, bed utensils, and instruments; and soiled linens and contaminated food containers will be sterilized before they are sent to the laundry and kitchen, respectively. The building and its equipment are so planned that no one need enter it except those



Fig. 20. Samaritan Hospital-Power house.

who are engaged in the actual care of patients. Supplies intended for the kitchen are passed through a Dutch door; soiled linens are removed by a porter from the built-in sterilizer, one side of which is accessible to the nurse working in the ward, while the other side is accessible from an outer room to the porter who carries the linens to the laundry.

The laundry is unusually spacious, well lighted, and ventilated. It is amply equipped for the present needs of the hospital, and the available floor space is sufficient to house additional machinery if required. The laundry machinery is of standard pattern, and was selected by a committee of Troy experts.

At one end of the laundry building, in a separate compartment, is placed the sterilizer for mattresses and for the clothing of patients admitted to the contagious wards. The sterilizer is built into the wall between two separate rooms, one designed for the reception of infected articles and the other for the storage of articles after sterilization. At this end of the building is a small room which can be entered only from outside, and which is to be used when required as a contagious morgue. The garage, which is planned as an extension of the laundry building, accommodates three vehicles. The pump and generator rooms are in the basement, directly beneath the laundry, and connect with the adjoin-

ing refrigerator plant, boiler room, coal bunker, and garbage incinerator. A commodious pipe tunnel extends from the power plant to the main buildings.

In an isolated dormitory building accommodations have been provided for all classes of resident employees, except doctors and nurses. The dormitory building is one of the distinctive features of the hospital. It has separate entrances for male and female employees. The proportion of space allotted to the two sexes may be changed at will. The location of this building is such that its occupants can enjoy their quarters unre-

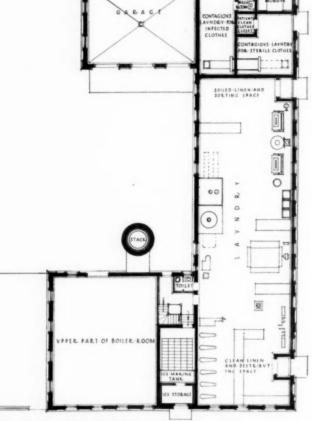


Fig. 21. Samaritan Hospital-Power house, First floor plan,

strainedly without risk of annoying hospital patients. The subdivision of dormitory space into small rooms will doubtless be appreciated by the employees, and should favor the continued employment of high-grade domestic workers.

A sanatorium for Indians afflicted with tuberculosis is now in full operation in Iowa, according to the Estherville (Ia.) Republican. It was formerly the agency school for the Musquakie Indians in Tama county, but the old Indians refused to permit their children to attend the school, and the Government confessed its inability to make the school a success. Then it was converted into a tuberculosis sanatorium, and recently was opened for that purpose, in charge of Dr. Russell as superintendent. At present there are 50 patients, which are about as many as can be accommodated, but the facilities are being enlarged. The patients are mostly children.

THE HOSPITAL X-RAY LABORATORY—ITS PLACE IN THE HOSPITAL.1

Scope and Equipment Depend on Many Things Which Must Be Considered—Good Equipment Without Trained Director Curtails Its Usefulness—Some Details.

By I. SETH HIRSCH, M. D.,

PROFESSOR OF ROENTGENOLOGY, NEW YORK POST-GRADUATE HOSPITAL AND MEDICAL SCHOOL; DIRECTOR OF THE X-RAY LABORATORY, BELLEVUE HOSPITAL, NEW YORK.

THE many questions which are constantly arising regarding the organization, apparatus, methods, and routine of the roentgen-ray department in hospitals have prompted this description in the hope that the suggestions here given, based on extensive experience, may be of aid.

It is clearly appreciated that the system and methods outlined are not perfect. Though certain definite standards have already been generally adopted, it nevertheless must be borne in mind that there are still many mooted questions and changing conditions requiring constant realignments. A measure of credit is, however, claimed for the ideas and system outlined in that they are practical, born of experience, and that they have met in a satisfactory manner the requirements of large, active and exacting services.

ROLE OF THE LABORATORY.

The application of the roentgen rays as a diagnostic agent in every field of medicine and surgery has made the x-ray department important and indispensable in a hospital organization.

Though it is acknowledged, and would be more generally conceded if the roentgenologist were always frank, that the art of the roentgen diagnosis has not yet reached its highest and fullest development. It cannot, on the other hand, be denied that it has made tremendous strides and conquered many fields, helping and benefiting the surgeon and physician in numerous ways, and will undoubtedly, as time goes on, demonstrate to him greater benefits.

It might seem that at this late day it would be unnecessary to argue for the value of the roent-gen-ray laboratory as a diagnostic agency, but the state of this department in many American hospitals seems to indicate a rather tardy recognition of the service it can render in medicine and surgery, and the responsibility for this cannot be placed entirely on the management, for how can the lay officers be expected to appreciate the value of a well-organized department to the clinical service when medical men have apparently little exact knowledge of its field of usefulness?

One of the striking things in the hospitals abroad is not always the elaborate and ornate, but the useful and active department, playing an important role in the clinical activities of the hospital.

A well-organized and equipped x-ray laboratory becomes the repository of a vast amount of interesting material, to the study of which it is asked to give its contribution. It becomes, so to speak, the clearing house for the undiagnosed and difficult and interesting cases in the hospital, and, rationally applied, it benefits the hospital generally by permitting a more rapid diagnosis, indicating a more rational therapy, and resulting in the end in shortening the stay of the patient in the hospital.

The roentgen laboratory is essentially a clinical laboratory because it deals with patients, and it is therefore necessary that such a laboratory should be a distinct adjunct and closely associated with the hospital wards.

MAINTENANCE.

The maintenance of an efficient roentgen department is an expensive item in hospital economies, and there is apparently no limit to the expenditure which may be made for apparatus and equipment. The apparatus, appliances, and even the actual maintenance are far more costly than for a pathological laboratory.

The contention that it is possible to maintain an efficient department according to modern standards at a moderate cost cannot be disputed. There are certain absolute essentials without which no department can do efficient work, and it is an investment making for eventual economy to obtain the most efficient, essential apparatus at the beginning. In addition to these, there are a multitude of accessory appliances which are to be considered luxuries; yet the question of just how much equipment a hospital is to purchase is a difficult one to decide, because of the overenthusiasm of the mechanically untried worker on the one hand, allured by new and glittering devices, and the uninterested, uninstructed lay official on the other, with the result that there is an appalling wastefulness in the management of some laboratories, useful apparatus being frequently discarded for new-fangled ideas. Would that it were possible for a roentgen department in a hospital to have a multitude of appliances, extensive floor space, and abundant assistance, but all hospitals are not richly endowed, and it appears to be diffi-

¹This is the first of three papers on The Hospital X-ray Laboratory, by Dr. Hirsch. Second installment next mouth.

cult to convince the authorities that the roentgen department is the most important part of a hospital organization—which it is not. Certain limitations will be met with in the largest and richest institutions, and it is not to be forgotten that doing the necessary work efficiently, in spite of certain limitations, shows the master.

ORGANIZATION.

In the organization of a department it should be borne in mind that an important thing, after all, is the diagnosis or the reading of the plate—in other words, that the object for which the laboratory exists is to report the results of the examination, and that the making of the plate is only the means to an end, and that it is more important to make the plate radiographically useful than photographically perfect, and that these are not always synonymous. To equip a laboratory, and then fail to provide it with a competent director particularly interested in the work, is a futile effort in the right direction.

In the organization of a department it is important to consider—

- 1. The size of the service.
- 2. The variety of the service.
- 3. Financial condition of the hospital.
- 4. Money available.

The organization of a department of a hospital of 100 beds would differ in many respects from that of a hospital of 1,000 beds. So, also, a labo-

ratory for the complete service of eye, ear, nose, and throat would in many respects be differently assembled from a laboratory for medical and surgical service.

What should be required of a department is-

- 1. That the results of the examination should in a usual case be available within twenty-four hours.
- 2. That a complete record, consisting of report of the finding and a diagram or print of the plate, should be appended to the history.
- 3. That the plates should be so filed as to be quickly isolated, and so classified as to be readily available for systematic study.

These problems should be solved in an economical manner as regards labor, time, and money.

To have a laboratory of the highest efficiency and greatest utility there is necessary in its organization:

- 1. Efficient direction.
- 2. Sufficient apparatus and equipment.
- 3. Sufficient room.
- 4. Efficient assistance.

To buy costly apparatus, and permit the work to be performed by the untrained and under the haphazard direction of a medical staff, leads to eventual dissatisfaction and discredit.

ROUTINE.

The routine, with few modifications, might well be applied to any service or any laboratory.

Name	Clinical diagnosis						
Age							
Resident physician							
Attending	Part						
Superintendent							
Date							
Plate No							
Part, position							
Pube							
Exposure, milliamp							
C-ray diagnosis							

Fig. 1. Requisition card for x-ray examination—Size, 4x6 inches. Data above the first black line is filled in by the medical staff.

Data between the first and second black lines is filled in while the examination is made. The x-ray diagnosis is filled in after the plate has been read.

Requisition cards for x-ray examinations (Fig. 1), bearing the signature of the attending physician or surgeon and the superintendent of the hospital, are submitted to the department in the morning if examinations are to be made on that day. This refers to a busy laboratory only, where it becomes necessary to plan the work, and where the actual plate examination work must be fin-

The patient may be brought to the department by a nurse or orderly from a ward, or by a special orderly attached to the x-ray department. The latter method is the best in large hospitals, for considerable time is saved by the nurses of the wards, and it becomes also unnecessary for them to wait in the department until the examination is finished. Examinations are made, if possible,

BELLEVUE HO	SPITAL—DEPARTMENT OF	RADIOLOGY.
Disease	***************************************	
•••••••••••••••••••••••••••••••••••••••		***************************************
Name	Plate No.	Remarks

Fig. 2. Diagnosis card-Size, 4x6 inches.

ished at a certain hour. The signature of the attending physician is necessary in order to hold in check the enthusiasm of an interested house staff for the roentgen demonstration of conditions where no difficult problem exists in diagnosis. The signature of the superintendent is important in order that he may thus keep in touch with the amount of work the department is doing.

during the morning hours, the afternoon being devoted to fluoroscopy and to developing, recording, and study of plates.

A report of the radiographic findings should be dictated to the stenographer the following day. The plates, labeled, should then be placed on illuminating boxes for the purpose of observation by the staff.

Date														
Division		Child	s	M	Gyn.	GU.	Clinic	0. P.	Pay	Free	Amt.	Series No.	Total	
No. of pati	ents					**********			***************************************	***************************************				
No. of plat	es	************	**********		* >=========			**********	**********		***************			
Tubes		Exp's Diseases No.						Notes						
*******************		Circulat. syst						********		************	*************			
	******	**********	Gas	Gastro. int. syst				*********	**********		***********		***********	
*****		***********	Uri	Urinary syst,				********	********					
******			Pre	Pregnancy										
*******	******		Join	Joints										
**********	*******	**********	Bon	Bones										
*******		***********	Fra	Fractures									*************	
******		**************	Disl	Dislocations										
			For	Foreign bodies										
		***********	rore	EIRH DOG	160	**********	*********	**********	********	*********	******	**********	**********	

Fig. 3. Daily record card-Size, 4x6 inches. Gives summary of day's work, including number of exposures made with each tube.

Two copies of each report are made, one being filed in the department and one being distributed to the wards, to be filed with the ward histories. These duplicate reports filed in the department may be appended to the plates as they are laid out for inspection, and thus save the director the necessity of personally explaining each plate to those calling at the department. In addition to this, prints which best illustrate the results of the examinations are filed with the history chart, either in all cases or where requested. The original requisition cards are filed in alphabetical order according to the name of the patient.

A diagnostic card system should also be kept which classifies the radiographs according to the pathological conditions (Fig. 2). The plates are filed in numerical order in large filing cabinets by the aid of filing guides, and this is done either daily or weekly. When done weekly, the daily plates are placed according to the name of the patient

into lettered compartments placed under the illuminating boxes.

For the rapid isolation of a plate, a day book is kept, wherein is recorded the data of the requisition card; the x-ray diagnosis, etc., being entered the following day. A daily report card (Fig. 3) is sent to the superintendent, giving the number of patients from each service, the number of free and the number of pay patients, etc. This is returned to the department and filed under the date, and is useful at the end of the year in the production of the annual report.

When plates are taken from the department, they are signed for. When given to the dark room for printing or reducing, etc., the plate is replaced in the file by a red card. By this method it is possible to determine where any particular plate is, and to locate it when inspection is desired.

[To be continued.]

FEEDING THE HOSPITAL-THE FOOD.1

Eggs, Poultry, Meat, Fish, and Oysters—Their Food Value—Their Selection, Preparation, and Cooking—Their Peculiar Values in Feeding the Sick.

BY MISS LULU GRAVES, DIETITIAN LAKESIDE HOSPITAL, CLEVELAND.

PAPER V.

I Thas been said that eggs are as indispensable in cooking as the word "the" is in conversation. This may be attributed to the fact that they contain high nutritive value, are easily digested, very well absorbed, and have a mild flavor which makes it possible to combine them with a great variety of other food materials.

Their value as a food depends a great deal on their freshness and the manner in which they are cooked. Perfectly fresh eggs are liked by almost everyone, but, if kept at ordinary room temperature, the flavor soon deteriorates. As the shells are porous, they may be quickly contaminated; they should not be kept near anything which has a strong or disagreeable odor, nor should they be packed in any material which has a disagreeable odor.

Eggs kept for any length of time in a warm room will have alkaline substances produced, presumably from the white; phosphoric acid from the yolk acts on these substances, forming sulphuretted hydrogen, which gives the characteristic odor to spoiled eggs. If air does not reach the inside, this chemical action takes place more slowly. Many devices are used to prevent the loss of water by evaporation and the passing of

air into the egg. Coating the outside of the shell with vaseline is probably the most effective means, but it is likewise the most expensive and requires too much time to be practical. Eggs may be preserved in a solution of lime water or in salt water, but these penetrate the shell and after a time affect the taste of the egg. Sodium silicate (water glass) has proved to be very satisfactory in preserving eggs. By this means eggs may be kept several months with very little, if any, change in the flavor. The yolk retains its normal position, and the eggs are more nearly like fresh ones than if preserved in any other of the ordinary ways. The shells crack very easily, so they must be handled carefully. and they must be used very soon after being removed from the solution.

Storage at a temperature of 32°-34° F. in a clean, pure atmosphere will arrest bacterial development in eggs, and there will be comparatively little change in four or five months, though after that the change is more or less pronounced, according to method and length of time kept. If not turned frequently, the yolk adheres to one side. The amount of moisture in the cold storage chamber is important, as the evaporation must be kept low. These eggs, too, should not be allowed to stand for any length of time in a higher

¹This is the fifth in a series of papers on "Feeding the Hospital." Last month, "Vegetables, Cereals, and Fruits." Next month, "The People to Be Fed."

temperature after being removed from cold storage.

Like all foods high in protein content, eggs should be cooked at a low temperature in order to prevent toughening the albumen. Water should not be allowed to boil while the egg is in it, whether the egg is being cooked in the shell or out of it (poached).

The length of time for cooking depends on the amount of heat used, number of eggs being cooked, whether the eggs are very cold when placed in the water, the size and freshness of the egg, the size of the pan and the material of which it is made, and the amount of water used. The idea that an egg should boil three minutes is not logical, and is not worthy of as much faith as is shown in it. Practically no two households will be found where the above-mentioned conditions are identical or even similar; it would be impossible to obtain uniform results when the only uniform condition is the time. Fried eggs are generally considered hard to digest; they are if they are fried at a temperature high enough to toughen the protein, or to separate the fat used into fatty acids. As butter is the favorite fat for frying eggs and its "cracking point" is low, these irritating acids are pretty apt to be formed. The smoking of the fat means that the acids are present, and many people wait for this "sign that the fat is hot enough for use" before dropping the eggs into it. The coating of fat may be difficult for the digestive juices to penetrate, thus causing trouble for a weak digestion.

Soft-cooked eggs are the most readily digested, though hard-cooked eggs are as completely digested and assimilated, the difference being in the length of time required, provided the hard-cooked have been well masticated. Raw eggs are not so easily digested as slightly cooked ones, as their fluidity causes little secretion of saliva, and they are apt to be coagulated in the stomach.

Eggs are a concentrated form of food, and during the greater part of the year might be classed as inexpensive. At 35 cents, or more, per dozen, they cannot be used freely in a family of limited means; but in combination with a white sauce they may be served as an omelet; or hard boiled and chopped or sliced, with a white sauce, they make a very good substitute for meat in the diet and require less fuel for cooking.

Instead of the white sauce, the cost may be farther reduced if bread crumbs and milk are used, and still very palatable and nutritious combinations made. Grated cheese and pieces of meat not usable by themselves may be added to form a substantial dish. When one does not need to restrict the number used, most appetizing souf-

fles and desserts are a pleasing change from puddings and pies. Because of their ease of digestion and the completeness of their absorption, they are desirable for people with impaired or weak digestion.

Other advantages of eggs as a food are that they contain no injurious substances, such as they be found in other forms of animal protein, and the albumin does not increase sugar in diabetes as some albumins do.

There is a tendency on the part of the public to be suspicious of hospital eggs. Whether there is any justification for this suspicion, there certainly is no need for it. Even if the financial situation will not permit the buying of strictly fresh eggs, a candling apparatus may be devised with practically no expense and very little time and trouble. Not a great deal of time is required to candle a case of eggs, and the trouble is far more than counterbalanced by the satisfaction of knowing that the patients and others are being served only good eggs. It is a most deplorable thing for a sick person (or well person either, for that matter) to attempt to eat an egg that causes nausea and perhaps a dislike for eggs the rest of his life; and, incidentally, it is most humiliating for a dietitian to be told that such a thing has occurred in her domain. One or two experiences of that sort are responsible for this determination on my part never to serve eggs which are at all questionable, if it can possibly be avoided.

At Oak Forest the chief engineer made for me a tin tube, fitted to a standard, with holes cut into it for the eggs and an extension above for the light. It was very efficient, as well as a good-looking piece of apparatus, and cost but a few cents. We used it in a small store room which had no window. Is there a hospital in the country without one or more such rooms? We provided air by leaving the door open and hanging in the opening a black curtain. It worked very well, and we could grade the eggs as closely as we chose.

At Lakeside we are using a tin box with holes cut into it. The electric bulb is inserted and the cover of the box closed tightly enough to shut out all light. While our facilities here are not so good for close grading as in the other instance, we can at least determine by spots and air space which we do not want for eating purposes, and thereby protect our patients and nurses from the unpleasantness of being served a stale egg.

POULTRY

furnishes another food material which is much used in the hospital dietary. All domestic fowls are similar so far as food value is concerned.

Conditions which influence the flavor and quality of poultry as food are age and sex, food and care, killing and plucking. Almost any breed may be made acceptable for eating with the proper care and food, though the larger fowls are considered better than the smaller. The young fowl is more tender and delicately flavored than one which is older; more growth and exercise have made the fibers of the older fowl tougher, but more extractives have developed, which gives a stronger flavor. The flesh of young fowls which have been well fed and cared for is more desirable than that from a neglected fowl, the flesh of which will be tough and stringy. The more exercise a fowl gets the more extractives are developed, and hence the more decided flavor. This is why the flavor of wild game is so pronounced. Capons and milkfed chickens grow to be larger than the common fowls, and their flesh is whiter and more delicately flavored. They are usually confined in a small area, and so much care is given to them to make their flesh of the highest quality that they bring a much higher price on the market.

In buying poultry, one looks for the following points for good quality: (1) a well-rounded form, with no bony angles, particularly on the breast; (2) a clear skin, free from yellow blotches—these blotches are indications of long storage; and other indications of long storage are a leathery skin and soft muscles, easily torn; (3) in a young fowl the breast bone is still cartilage, being soft and flexible, the feet are soft and smooth—not hard and rough; in ducks and geese the windpipe is flexible in a young fowl; in squabs the flesh is whitish and the feet red, in the older bird the flesh is purplish.

The Yearbook issued by the Agricultural Department says that, so long as poultry is frozen solidly, no harm is done by storage. At the meeting of the packers and cold storage men in Chicago last year, meats and poultry were served that had been in storage for a much longer time than we like to think of them as being kept, and defied anyone to find fault with their flavors. No doubt much of the criticism of cold storage is due to the manner of thawing and handling after the poultry is removed from storage. The practice of thawing by dipping the fowls in tanks of water has been most repulsive in some instances where the water in the tank has not been renewed as frequently as it should be, and poultry which was in good condition when taken out of storage would be pretty well contaminated after coming out of the tank. It is difficult for the dealer to sell frozen chickens to retail buyers, as few realize that the frozen fowl may be really safer than one which has been thawed, and the fact that it is not

frozen is no indication that it has not been in storage. After being taken from the extremely low temperature into the higher one in the market, they deteriorate very rapidly.

Ducks and geese have so much fat that they are very little used in the hospital dietary. Squabs and quails, etc., can be used only in hospitals whose patrons are well to do, but chicken is used daily for all classes of patients and in all hospitals.

The difference in food value of dark and light meat is a negligible quantity. There is a lesser amount of fat in the light meat, but there is not enough in the dark meat to be given any consideration dietetically. The dark meat has more extractives, and consequently is more highly flavored. There was formerly a prejudice in favor of using white meat for a patient when he was beginning to eat his first solid food, and forbidding the dark; but that no longer prevails among the well informed.

Cooking plays as important a part in the desirability and digestibility of chicken as any other factor. What may be said of the cooking of chicken may be said of all meat. If any microorganisms are present, they are killed by the cooking process; flavors are developed which completely alter taste; chemical changes take place which produce acids that soften the fibers and make the flesh more easily digested. Cooking meat too long, or at too high a temperature, will dry up the juices, making it tasteless, and toughen the fibers so that they are not readily broken down by the digestive juices.

MEATS.

If meat is used as a food material itself, it should be submitted to a high temperature at first in order to sear the outer surface and retain the juices, and then the temperature should be lowered for the rest of the cooking. We sacrifice the outer crust for the sake of improving the remainder. If both meat and broth are to be used, as in stews and fricassee, a slow cooking is required at a low temperature in a well-covered kettle. In this way a very acceptable food may be obtained from a tough piece of meat. If only the broth is to be used, the meat should be cut in small pieces in order to expose the largest possible surface; it should be put in cold water and allowed to stand a half hour in order to dissolve out the proteins which are soluble in cold water: then cooked slowly in a tightly covered vessel in order to retain all the flavor. Not less than an hour, and more if possible, should be allowed for a quart of broth to cook, never boiling at any time. By this process all the soluble proteins, extractives, and mineral salts are in the broth. It should be poured off the meat, but not strained,

as the flocculent particles are the protein, and should be given unless the patient is in such an extreme condition that even these minute bits of solid matter disturb him.

For young and tender meats, broiling and roasting give the best results; older and tougher fibers are much more difficult to make palatable in this way; stewing, boiling, en casserole, etc., are more satisfactory ways of serving them. In roasting and broiling, no fat should be allowed to accumulate in the pan, as it will coat the outer surface of the meat and be difficult for the digestive juices to penetrate it and the hardened crust made by the high temperature.

All meats have much the same composition, that from different animals varying chiefly in proportion. Lean meat is made up of bundles of fibers held together by connective tissue, with varying quantities of fat scattered through and between the membranes. There are many forms of protein in meat—albumin in the blood and muscle; collagen, which becomes gelatin when cooked, in the skin, connective tissue, tendons, and bone; fibrin, a substance in the blood which causes it to coagulate and form a clot when exposed to air; myosin in the muscles and tendons, which causes the stiffening of muscles after death, known as rigor mortis; globulin in the blood, and many others. As some of these are soluble in cold water and some in hot water, the manner of cooking figures largely in the results we get when it is ready to be eaten.

After an animal is slaughtered, the meat passes through three stages. In the first of these, immediately after death, the meat is usable; in the second, rigor mortis has taken place and it is not good for food; in the third stage acids have developed which soften the muscle fibers and it is again fit for food. This is known as the "ripening" process. When we rub vinegar or other acid on meat which is tough in order to soften the fibers and make it more tender, we are simply carrying on this natural process.

Our most expensive cuts of meat are from the parts of the animal which are least used. They are the more tender and fine grained parts, but they have less juice and extractives. The tenderloin and porterhouse steaks are cut from the portion where there is little or no exercise of the muscle, while the round and the flank steaks are from the leg or just in front of it, where the muscle is much exercised. The latter are just as nutritious and more highly flavored, and, with proper cooking, they may be made very palatable. Owing to the prevalent American habit, or cultivated taste, which demands delicate flavors, the first mentioned are much higher priced.

Beef should be fine grained, well mottled with fat; the lean should be bright red, the fat firm. yellowish, and should crumble easily. Beef has no very pronounced flavor, and consequently it palls on the appetite less than pork or lamb. Veal has less fat and is less nutritious than beef. It has more gelatine. Veal broth is considered next to chicken in delicacy. Veal should be thoroughly cooked, while beef is more desirable for most people if rare. There are some contentions to the effect that veal is hard to digest, but if thoroughly cooked and properly masticated, there is nothing about veal to give any trouble in digestion. Dr. Lorand, of Carlsbad, uses veal and chicken in the same way in diets for delicate people, and gives veal preference over beef as a food. Either veal or chicken finely chopped may be given in cases of gastrointestinal trouble.

Lamb is less easily digested on account of the greater amount of fat and its higher melting point. It has a strong flavor. If the outside skin comes off easily, the mutton is good. Mutton should be of a pinkish color, the fat hard and flaky. In lamb chops the bone is red; in mutton chops it is not. Lamb must be well cooked; mutton may not necessarily be.

Owing to its high percentage of fat, fresh pork is hard to digest, but, if cured or smoked, it is not. It must be very thoroughly cooked because of the possible presence of trichina. Trichina will withstand the action of heat and smoke if applied only in moderation, and it may be transmitted to the human being through the eating of meat. We hear pork spoken of as an unclean food because of the unclean habits of the hog; but the gastric juice of the hog is exceptionally efficacious and will transform anything the animal eats. The fat of bacon is in granular form and is easy of digestion. Ham is not difficult of digestion, but it forms uric acid in considerably large quantities. Ham and bacon are sugar-cured and smoked; this gives them a good flavor and makes them keep well.

Liver has much albumin and carbohydrate in comparison with other meats. It also contains lecithin. It is valuable in a diet requiring high iron content.

Sweetbreads appear prenatally in the calf, and soon disappear after the calf quits living on milk. The thymus, or throat sweetbread, and the heart, or pancreas sweetbread, form a pair. The heart is the round thick part, and is esteemed as the more delicate. They are extremely easy of digestion, but contain large percentage of nucleoprotein, a form of protein which is richer than other forms, and harmful in cases of gout and

rheumatism. They may be served in many ways, but they are expensive, and spoil easily.

For those who desire the nourishment of meat, and yet are not equal to caring for it in the ordinary way, the pulp may be separated from the fiber by scraping a thick piece of beef with a dull edge of a knife or spoon. It must be scraped lengthwise of the fiber, so as not to break the fiber or get any of it in the pulp. It may be made into sandwiches, or formed into balls and seared in a hot pan without any fat. The value of the meat ball is apt to be counteracted in the cooking unless done by a skilled person, as it is very easily overcooked and the protein hardened until it is as bad as the fiber in the original piece of meat. The juice of the meat may be extracted by subjecting it to strong pressure. This is beneficial in cases of severe gastric disturbances, typhoid, and for infants after one year of age. In warming the juice for serving, care should be taken not to overheat it. Beef juice contains fourteen times as much protein as the average beef tea, but the beef tea is richer in flavor. They are very good when combined. Meats are our cheap source of protein. They are a concentrated food, and, because of the small amount of "ballast," they are readily attacked by the digestive juices and quite completely absorbed. They require a great deal of oxidation during digestion because of the fat present. As a people we east too much meat. Only the man who is doing hard, physical labor, or living out of doors, or doing both, needs, or can properly care for in the body, meat eaten three times a day. Yet I know of no hospital of any pretentions as to size where meat is not served three times daily to its private room patients, nor can the dietitian with impunity attempt to change this order. The maority of people with whom one discusses the subject will speak deploringly of the use of so much meat, but no one except the physicians will ever be able to alter the custom. Not until they convince their patients that it is a harmful practice, will there be any improvement. When will that be?

FISH AND OYSTERS.

Chicken and fish are perhaps the most natural substitutes for meat, as their nutritive value is much the same, with the exception that they contain a smaller percent of protein. Fish has fewer extractives, and therefore less decided flavor. The oily fishes—salmon, mackerel, herring, etc.—have higher food value than the nonoily—perch, cod, trout, etc. The theory that fish is a brain food has long been exploded, not only because we know there are no "brain foods," but there is no justification for the statement that fish is rich in phosphorus.

There is less waste in fish than in most animal foods, and it is less expensive. It serves as a variety in the diet, and, as a rule, is easily digested, which makes it well adapted to people living a sedentary life. This does not apply to lobster, shrimp, and those varieties of fish which are very "rich" foods and have no place on a hospital dietary. Oysters more nearly resemble milk than any other food material in regard to amount and proportion of nutriment. They are extremely easy of digestion; they should be slightly cooked and probably are more readily digested if not cooked at all. Combined with milk and butter and served with crackers, in the form of a stew, or thickened with a larger proportion of cracker or bread crumbs in an escallop, they are a very good food for convalescents or people who are exercising but little. The carbohydrate in oysters is in the form of glycogen.

There is a question in regard to the eating of raw oysters. They may have been "floated" in unclean water, or, if the oyster bed is near a city, there is danger of sewage contamination and typhoid "germs." The flavor of oysters is affected by the locality in which grown and the season of the year. They must be kept in a very low temperature, as they spoil quickly and should not be eaten after being in a warm room for any great length of time. This same thing might be said of any form of fish. In the decomposition of animal tissue, poisonous bodies called ptomaines are formed, which are the result of bacterial action. This action is quite apt to accompany putrefaction. We occasionally see oysters with a green color; this may be due to a plant on which they feed or it may be due to the presence of copper. If it be a grass-green and there is a slimy verdigris-like secretion in the folds, it is due to copper; but if a dark-green, it is due to the plant on which the oyster fed. This season we are finding on the market a pink variety, but the fancy color neither adds to nor detracts from its food value, unless it be from the copper.

Miss Amy Beers, who opened and has administered the Jefferson County Hospital at Fairfield, Iowa, for the past two years, has resigned to accept the position of first assistant superintendent of the training school at the New York City Hospital, Blackwell's Island, with 900 beds. The Blackwell's Island hospital is Miss Beers' alma mater, and under Miss Carolyn E. Gray, the new superintendent of the training school, an old friend, she returns to a most congenial home. Miss Beers' successor at Fairfield is Miss Luella Bristol, formerly superintendent of the Eleanor Moore Hospital, at Boone, Iowa, and president of the Iowa State League of Nursing Education. The Jefferson County Hospital, under Miss Beers, has really done wonders in the way of popularizing the county hospital idea, and the excellence of her institution has had no small part in inspiring the enactment of county hospital legislation in a number of states. The hospital world is indebted to Miss Beers for a fine piece of constructive work that was well worth doing.

THE HOSPITAL SUPERINTENDENT—PAST, PRESENT, AND FUTURE.1

Qualifications, Authority, and Responsibilities of the Hospital Superintendent—Duties of The Board of Trustees—An Ideal Organization Presented.

BY WILLIAM H. WALSH, M. D.,

MEDICAL SUPERINTENDENT HOSPITAL FOR CONTAGIOUS DISEASES, PHILADELPHIA.

A N intelligent consideration of the hospital superintendent requires some allusion to the hospital itself. Assuming, however, that we are all more or less acquainted with American hospitals, their obligations, requirements, and limitations, the writer will proceed with his subject, making a brief reference to the relationship between the board of trustees and the superintendent; a critical contemplation of the superintendent of the past, observations on the standing of that official today, and a prophecy of his status in the future.

From the outset it is only fair to state that the success or failure of any superintendent is largely dependent on the policy dictated by the board of trustees, so that this body will be frequently referred to in order to define its relation to the superintendent.

Regardless of the manner in which the trustees may be chosen—whether by the contributors, the citizens, or by the courts—their responsibilities are the same, and direct personal liability should not differ from that of directors in commercial organizations. No more important duty devolves on the board than the choice of the superintendent, and, having selected for that position one who has the necessary qualifications and training, the board should from the start support, encourage, and advise him. It should recognize the necessity for the most rigid discipline, and realize that the superintendent is the one who is charged with its maintenance. No organization can work harmoniously unless there is one recognized head who is responsible for the success or failure of the administration; indeed, nothing can happen to more speedily disrupt a hospital than the ofttimes meddlesome attitude of overzealous trustees, who, either through conceit or ignorance, imagine themselves endowed with superlative executive ability.

From the outset the board of trustees should cause to be drafted a set of by-lays in which their prerogatives, together with those of the superintendent, should be clearly and concisely defined. In specifying the powers and privileges of the superintendent, the board should not proceed to such length as to make itself wholly secondary to the superintendent in any essential question of an administrative character. The superintendent

should, of course, attend the regular meetings of the trustees, advise them, and give them the full benefit of all information and expert knowledge which he may possess concerning any subject that may come before him at any time.

There is no sound reason to exclude this administrative official from the board meetings, and to do so is equivalent to an expression of lack of confidence. It has been a source of considerable surprise to the writer to find so many hospital superintendents totally indifferent to this matter; some resent their banishment from board meetings, but lack the courage to demand an essential right; others do not presume to expect attendance, and a few do not desire personal representation. The board should recognize the desirability of having the superintendent present and recommend candidates whom he may consider as worthy and proper for any vacancies that may arise in the hospital. and no appointments should be made without his consultation and advice. As a hospital expert. he should be a guide and assistant to the board in the formation of its judgment, and, as the chief executive officer, there should be reasonable deference paid to his views and desires in order that he may perform his own duty in harmony with the entire working force of the hospital. In his supervision he should have the full right to recommend, or even to "indicate," the action of the board by pointing out what, in his opinion, should be done. But such a board of trustees should at all times reserve to itself the right to correct what it may believe to be errors of judgment in such an officer, or to decline acquiescence in his recommendations, for it cannot be assumed that the superintendent, no matter who he may be, may not be subject on some occasions to mistakes, prejudices, favoritism, or even folly in the formation of his official judgment.

Every board of trustees should be made to realize that affairs in the hospital world are moving (if not always progressing), and that the superintendent who is alive to his opportunities will be desirous of attending scientific meetings and conventions. In this laudable aim he should receive, not only the hearty support of the board, but his necessary expenses should be paid by that body.

HOSPITAL SUPERINTENDENT OF THE PAST.

Our early American hospitals, like other institutions of that day, were fashioned after the Eng-

¹Read at the sixteenth annual conference of the American Hospital Association, St. Paul, August 25-28, 1914.

lish pattern, and indeed were inaugurated through the activities of medical men who were educated abroad, so that it is not surprising if even today we should observe striking similarities between some of the older hospitals of this country and those of England.

The organization and erection of a hospital and acquisition of the wherewithal to support it were even greater achievements a hundred years ago than today, so that, having succeeded under distressing difficulties, the organizers proposed to personally conduct those institutions which were the fruition of their untiring labor and zeal. Thus for years the early hospitals were governed by the more aggressive members of the staff, and indeed today we may still find hospitals practically controlled by certain of their physicians and surgeons. If the resident hospital clerk possessed the proud title of superintendent, the title was of small significance, for his position was that of a steward, and by that name he was generally known. As time went on, control of hospitals became more and more vested in the trustees, then often elected from the staff, so that the controlling body, while still perhaps the same individuals, became the board of trustees. The dual position of trustee and attending physician may be said to be an abuse that continues in some hospitals up to the present day, and is a distinct handicap, for obvious reasons, to efficient organization.

The history of a number of hospitals would indicate that the lay trustees realized the ill effects of having members of the staff on the board, for, as the years rolled on, this condition changed; indeed, the reaction was so complete that few medical men were even considered for managerial appointment, but the steward remained the figurehead he was, and the lay managers delegated to themselves the executive duties formerly performed by medical men. In one of the oldest hospitals in the country, during this period, it was customary for a different trustee to visit the hospital daily, make an inspection, issuing orders, and otherwise making his august presence known to all from the steward to the humble kitchen help. He performed the functions of the executive officer during the twenty-four hours of his reign, being succeeded the following day by another trustee with perhaps widely diverging ideas, but seldom lacking sufficient self-confidence for the snapshot solution of any and all the multitudinous problems that might be placed before him. The policies of such a hospital naturally changed with kaleidoscopic rapidity, as did also the personnel. so that it became difficult to secure qualified employees; this condition, too, has left its imprint up to the present day.

A few hospitals whose brilliant careers are well known to all, many years ago were sufficiently advanced in their ideas to see the necessity of the medical superintendent. A notable example is a prominent hospital in New York City, whose superintendent has retired after a continued service of twenty-three years. In this connection a recent editorial in a prominent hospital journal states: "Hospital people the world over have come to look to the Presbyterian Hospital of New York for the best there is in methods and purposes; its leadership has been safe and sound for these many years; its trustees have changed many times; its devoted supporters have come and gone; but, always as true as the needle to the pole, the fine old institution has gone its way-high and ever higher, and we know where the real leadership was."

However paradoxical it may sound, the muchbeloved gentleman referred to in the above quotation, though now retiring after twenty-three years of continuous service, is the standard for the ideal superintendent of the future. When he began his labors a quarter of a century ago, his compeers were few, and, sad to say, a searching quest will not reveal many today who may be worthily compared with him.

But let us now scan the hospital world of today with the object of observing what progress, if any, has been made with respect to the hospital superintendent during the last twenty-five years.

HOSPITAL SUPERINTENDENT OF THE PRESENT.

A striking point that has been widely commented on is the wide dissimilarity, not only between the different classes of persons filling the post of superintendent, but the great difference in functions, duties, responsibilities, and compensation, as compared with each other, so that it is rarely indeed that we may encounter two hospitals identical in this respect. There does not seem to be any accepted standard by which a new hospital may be governed in the selection of its executive officers. In one institution we will meet a layman, chosen perhaps because of business ability previously demonstrated by success in some pursuit entirely dissimilar to the management of a hospital. The layman will have no authority over the medical side of the institution. and it is rare indeed that he is even invited to discuss such matters. If a member of the staff demands apparatus that is expensive or drugs that are of a doubtful value, it is entirely out of the question for a layman to discuss or even inquire as to their value or necessity, and the superintendent is compelled, often against his better judgment, to make purchases that might be avoided if he could have met the physician on common ground.

In another hospital we encounter a clergyman occupying the chief executive position frankly disclaiming any special qualifications for the post, having been elected to it by the members of a sectarian board. The hospital with such a head will perhaps be assured of a highly religious atmosphere, and, if it employs a good steward, an efficient resident physician, and a competent directress of nurses, the institution may continue its mediocre existence for many years, the functions of the superintendent being performed through the agency of the rubber stamp.

In still another institution we will encounter the pathetic spectacle of the physician superintendent, who, being highly respected in the community, but a rank failure in practicing his profession, is placed by kind friends and well-wishers in charge of a hospital under the assumption that there he would find a haven far removed from the strife and contentions of the day. The less said about this genus of hospital superintendent, the better, but it may be aptly remarked that a man who cannot successfully manage his own affairs is a poor selection for the government of an institution of the complexity of a hospital.

More and more since the advent of Florence Nightingale into the nursing field do we find trained nurses in the superintendent's chair; indeed, it may be said with all fairness that a trained nurse who has demonstrated her executive ability by ably handling nurses, and who naturally is a good housekeeper, is far superior from every standpoint to any other than the modern medical administrator. Under certain conditions, a small hospital may be, and many are today, efficiently managed by trained nurses, who, having received an elementary training in medicine, are far better able to form an opinion regarding medical affairs as related to hospital administration than a layman, a clergyman, or the untrained physician.

These are but a few of the persons of widely differing capabilities and qualifications whom the writer has found in charge of hospitals. It remained for a little town in China to exhibit a hospital presided over by the village undertaker, and my genial celestial friend gravely assured me that the arrangement was most satisfactory to all concerned.

Municipal hospitals are usually considered part of the "swag" of the dominant political party, and the superintendent is appointed by politicians who seldom have any regard for questions of economy or efficiency. There is no hesitancy in appointing anyone from a bricklayer to a disabled diplomat to preside over the loyal distribution of the taxpayer's money, and incidentally over the destiny of the unfortunate sick of the community.

Those who pay the piper are awakening, however, to the abuse of public charity, and a sincere effort is being made to place in executive and administrative positions men who are properly qualified by training and experience to fill them. The public must be educated to an understanding of the already proved fact that hospitals cannot be efficiently maintained as long as they are under the domination of politics. Such institutions, spending large sums of the revenue of a city or state, should be so far removed from the possibility of corrupt political interference that a change of administration would not throw out a competent superintendent, often causing a complete reversal of policy in the institution. Owing to the uncertainty of the tenure of office and to the premium placed on candidates who are sufficiently pliable to do the bidding of the appointing power, today municipal institutions are unable to secure the services of competent administrators. Many of our large cities find themselves in this unfortunate position, from which they will never extricate themselves until political considerations are made secondary to those of thrift, competency, and integrity.

The foregoing is a brief review of the present status of the hospital superintendent, and, though hackneyed, gives some idea of the diversified conceptions of the functions of the position and of the various individuals who are supposed to possess the necessary qualifications. This peculiar condition of affairs has never been duplicated in any other line of business organization, and the query naturally arises and is being forced on us by scientific engineers, whether hospitals are so widely different in their methods as to require such a variegated assortment of individuals as executives, and whether the business of a hospital is so simple and facile of comprehension as to make it entirely feasible for anyone to successfully master.

Is it possible for a clergyman, a nun, a business man, a physician, or a nurse to have the necessary qualifications to preside over an institution whose object is the treatment and care of the sick? In reply it may well be said that all things are possible, and that many laymen have acquired such conspicuous ability in hospital administration as to have become widely and favorably known throughout the country. In conceding this point, the writer would strongly emphasize his admiration for those exceptional individuals who, without advantage of a medical training, have built up some of our successful and efficient hospitals. But from the lips of those very persons have come the sad stories of their vicissitudes, and they, above all others, realize that the hospital world

today is facing a problem that cannot much longer be evaded, on the intelligent solution of which rests the fate of thousands of institutions supported by millions of dollars.

Those who have of late been actively engaged in the solicitation of bequests for charitable institutions are becoming fully alive to their shortcomings through the searching inquiries of those who are contemplating the donation of funds. The benevolently inclined member of a community who has amassed a fortune by the exercise of frugality and careful business methods wants to know a great deal about an institution before he opens his coffers. So, then, from a purely mercenary standpoint it behooves us to observe the writing on the wall—to analyze our defects, and to formulate a set of standards that may be pointed to with a true sense of pride.

HOSPITAL SUPERINTENDENT OF THE FUTURE.

For the same reason that a power plant requires the expert supervision of an engineer, that a steamship demands an expert navigator, and an army needs a soldier to direct its movements, an institution for the treatment of the sick imperatively demands a person trained along professional lines to supervise its activities. There seems to be a unanimity of opinion in favor of this proposition among the foremost hospital workers of the day, but these same experts will advance the argument that, owing to the scarcity of trained medical administrators, we are compelled to accept whatever material is available, and that the high salary demanded by competent men is prohibitive. If the same argument were advanced by a manufacturer with reference to the employment of an engineer to direct his power plant, he would find himself face to face with the stern mandates of the law. If the ship owner thought to economize by placing his ship under the command of an unlicensed master, he, too, would encounter legal obstacles; so also the army commanded by an unseasoned soldier would meet well-merited defeat.

If there are few medical men available to enter this field, it is the fault of the hospital world itself for its failure to provide the opportunities that such men demand. It is small wonder that a physician with the ability to administer a large general hospital should hesitate when he beholds the manner in which hospitals are being conducted, and it is not surprising if he should conclude that his energies might be more effectually exercised elsewhere.

The necessity for a medical superintendent would seem so apparent that it is somewhat amazing to discover so many institutions without such an official. Aside from the purely business

aspect of a hospital, the superintendent should be acquainted with all questions of sanitation, determine the amount of air space necessary for the patients, and provide hygienic, comfortable living quarters for nurses and employees. He should coordinate the various branches of the hospital, and so understand medical records as to personally know that they are properly rendered. He must be familiar with the public health laws and of forensic medicine in order that he may protect his hospital when medico-legal questions arise. He is expected to pass on the quality of foods and their preparation, and to determine the necessary equipment for laboratories, operating rooms, and the medical and surgical wards. He should be so conversant with medical ethics as to enable him to diplomatically settle the vexatious questions that arise between different members of the staff and between the staff and outside physicians. He should be so familiar with the treatment of the sick as to be in a position to relieve the physicians and surgeons of every interlacing business detail. And, finally, the superintendent should be possessed of a judicial mind, which, with his medical education, would make it possible for him to detect any inefficiency on the part of the staff before it ruined the reputation of the hospital. The superintendent who understands these matters is better able to give his patients the care they require, and without such knowledge he is compelled to delegate to others the decision of many questions of the most vital importance from both the medical and economic standpoint.

It has been claimed that medical men are not good executives, an assertion that is not founded on fact. We are well acquainted with the three prominent army officers, the highest in rank in that body, who, starting their careers as physicians, later entered other branches of the service, and the writer could give innumerable instances of like nature.

Perhaps the most worthy objection advanced against the employment of medical superintendents is that the salaries demanded by such men are greater than the average hospital can afford, and, with respect to those hospitals whose incomes are less than \$25,000 per annum, the writer considers this objection valid under present conditions. For such hospitals it would seem that the trained nurse would more closely approach the ideal administrator than anyone else.

The argument often advanced that physicians are poor business men is true in so far as it applies to those who have had no commercial training. A physician is as capable of imbibing such knowledge as anyone else with a normal mentality, and the experience of those few institutions that are

training such men today proves this assertion beyond the peradventure of a doubt.

It is an accepted fact that there are few qualified superintendents available today, so that, knowing this, we cannot longer evade our responsibilities in the matter of providing the means whereby those who desire to enter this field may be welcomed, encouraged, and assisted. Disregarding every claim to the contrary and every petty objection that may be advanced, it may be said with some degree of assurance that the hospital superintendent of the future will be a medically trained business administrator, and it is a solemn obligation of the modern hospital to provide the means for this highly specialized education.

When the large general hospitals open their doors to the apprentice who is desirous of becoming a hospital superintendent, there will be no scarcity of applicants for such berths. The young medical man desirous of entering this field will just as willingly give his services to the administration department as does the intern who wil-

lingly spends from one to three years without compensation for the purpose of gaining medical experience. No modern hospital should be without one or two such pupils, and the authorities should, on the faithful completion of his term, make every effort to place him in a suitable hospital. Such men, though not commanding large salaries during their early years, would be assured increased compensation as experience and ability ripened.

When every one of such institutions has fulfilled its duty fully in this direction, it will be possible for even the small hospital to obtain a qualified superintendent at a reasonable compensation. Medical men will then consider the hospital field a legitimate and honorable calling, knowing the opportunities for advancement. Then and not until then will the proper standards be reached.

The hospital which has the latent power of such an ideal organization will generate the dynamic force necessary to duplicate the brilliant achievements that have added so much luster to the history of American hospital development.

SAFETY FROM FIRE TO THE HELPLESS IN HOSPITALS.

Old-Fashioned Fire-Fighting Devices in Fireproof Buildings Is Waste of Money and Misdirected Effort—Fire Walls With Self-Closing Metal Doors More Logical—Patients May Be Moved From Burning Area Without Danger.

BY H. F. J. PORTER, M. E., NEW YORK.

F late the trend of advance in architecture and building has been from the nonfireproof stage of construction to one where the building materials are incombustible, and a building composed of them is unburnable. Especially has this advance been fostered in the hospital field. In the past it has been felt that the only way to make buildings of this type safe for their helpless occupants was to render the possibility of a fire occurring in them as remote as possible, for otherwise, should a fire increase to any considerable size in one of them in which bedridden patients were housed, it would be impossible, owing to the lack of attendants, to remove any great number of these people to safety in the short time which would probably be allowed. Many would therefore undoubtedly be burned to death.

It is curious to note the action of the normal mind in certain directions. Take, for instance, this particular field: one would suppose that, in the progress of the development in methods of more safe construction, customs which were necessary to be maintained in the nonfireproof building in order to extinguish fires and save lives would not be so necessary in the fireproof building, particu-

larly if the furniture be fireproof, which is now possible, especially in hospitals where there is very little furniture anyway, and this is usually of steel.

In old hospital buildings, where the type of construction was such as to be a continuous fire menace, it was customary to have fire hose and standpipes with water pressure maintained in them, and, in addition, chemical fire extinguishers were supplied, and fire-fighting brigades were developed to operate this apparatus in case of need. Sprinkler systems were in some cases installed to assist by automatic operation the extinguishment of incipient fires in case of the absence of competent help, as might occur at night. Fire alarm signal systems were installed to notify promptly, in case of fire, the occupants of the buildings and to call the fire department of the city, and for the assembling of assistants to carry the patients down outside fire escapes, or to throw them into chutes. Fire drills were developed, so that the help would be instructed how to act in the latter emergency.

The object of the advance to the fireproof hospital was to secure a safe building in which all

this expensive fire-fighting and fire-escape installation and performance would be unnecessary. But what do we find? Modern hospitals constructed of steel, stone, brick, and concrete, containing iron beds and iron furniture, and nothing inflammable in them but the bedding, which could not possibly catch fire, for the electric lighting precludes the necessity for lamps, candles, or the use of matches, thus eliminating all ordinary sources of fire. And yet installed in these buildings are the same hose and stand-pipes, with the water pressure maintained, the same fire alarm signal systems and the same fire-fighting brigade, and even the fire drill to take the helpless patients out of the buildings in case of fire, when under no circumstances would a fire requiring such a removal of the patients be probable, for no fire could possibly occur that could not be put out with a pail of water or a hand extinguisher, and the flames could not under the most untoward circumstances spread beyond the room where it originated.

Elaborate fire escapes, although of absolutely no use or assistance to helpless or bedridden pa-

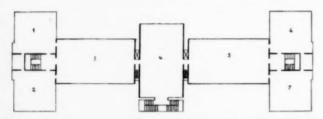


Fig. 1. Typical hospital building. The heavy lines indicate existing walls which were susceptible of being developed into fire walls, thus dividing the building into seven sections. In case of a fire occurring in any one of these sections, it would be confined to that section, thus endangering only one-seventh of the building, and necessitating the removal of only one-seventh of its occupants, who can be wheeled to safety into either or both of two adjoining sections. As the stairs and elevators will not be required for the escape of the occupants, they will be available for the use of the fire fighters in reaching the fire promptly.

tients, also continue to be erected on fireproof hospital buildings. These not only disfigure the buildings, but are worse than an actual waste of money, for the latter is spent in applying to the buildings appendages which are in themselves sources of accident, and in case of use in emergency may cause fatalities.

Let us in the future omit all these unnecessary relics of obsolete wooden construction, and with the resultant saving in money give our hospitals a safe design, build them fireproof, and supply them with nothing but fireproof furniture and equipment.

So much for future buildings. But how about the thousands of nonfireproof hospitals already existing? Here is a matter of vital importance that should interest people generally, for no one can know how soon he may himself become an inmate of one of these institutions. Is it necessary

to tear down the old buildings and put up new ones in order to insure the desired safety to their inmates? It would cost enormous sums of money to replace these old buildings throughout the country with new ones of modern construction. Many of them are so substantially built that they will last for many years, and, as far as the convenience of arrangement of rooms, service, etc., are concerned, they could scarcely be improved. Obviously, however, something must be done with them, for they house hundreds of thousands of helpless patients who in case of fire would probably perish. It is a very serious responsibility which public officials assume when they send the helpless wards of their respective communities to buildings which are nonfireproof, and from which, if a fire should occur in them, they could not be rescued. It is these hospitals which we must now consider, to determine if ways cannot be devised of making them reasonably safe for their occupants without entailing prohibitive expense.

Until recently no serious effort had been made in this direction, with the exception of supplying sprinkler systems and "down-and-out" chutes, neither of which can be considered a practical means of meeting the situation. Sprinklers do not operate until a fire occurs and has reached a magnitude sufficient to develop a temperature in which human beings cannot long exist, and, as gases and smoke accompany this temperature, the physical and mental agony of the patients would have a very injurious effect on them, and probably many of them would be suffocated before they could be rescued from such an environment. Nor can people who are ill or suffering from surgical operations be unceremoniously seized, dragged on the floor, and thrown into chutes, or carried down fire escapes or smokeproof towers, with any hope of escaping serious and possibly fatal injury.

To meet this condition, as soon as I learned of it several years ago, I adapted to hospital buildings a method which I had developed some time previously of making other types of buildings safe for their occupants, as described in my article in the last number of THE MODERN HOSPITAL. I provided in these buildings fireproof division walls with doorways in them, closed by self-closing fireproof doors, thus dividing them into sections, in any one of which, should a fire occur, it would be confined there. I supplied each of the patients' beds with special casters under its head-posts and an iron lifting strap at its foot-board, so that, in case of fire, all that would be necessary to save the patients in that section would be for an attendant to lift the foot of the bed and trundle it through one of the doorways in the fire wall into one of the

adjoining sections and close the door after them. This affords a "horizontal escape" from the fire, the fire walls and fire doors serving as effective barriers to the fire, and the patients thus reach safety without being taken from their beds and with the least amount of disturbance. Such an arrangement finds a parallel in the watertight bulkheads and sections of the ocean steamer.

Almost all of the old hospitals have started with the idea of future development, and later, as they have grown, have had additions made to them in the shape of wings, generally in such a way as to form a symmetrical design. In such cases the walls between the original building and the wings afford an opportunity to develop the necessary fire walls. These walls are never found perfectly effective or satisfactory for the purpose of fire walls, for they were not built for that purpose, but they can usually be made so, readily and

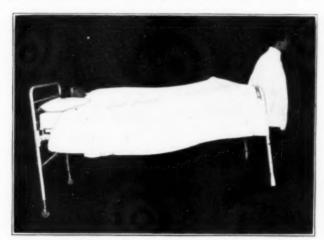


Fig. 2. Attendant wheeling helpless patient to safety in case of fire. The head-posts are provided with specially designed felt-tired casters which do not swivel. The bed is, therefore, normally on four stationary supports, but, when the foot is raised, the bed can be trundled straight ahead like a wheelbarrow. The foot-posts have felt plugs, which, as with the casters, are slipped over the legs and fastened there rigidly.

at small expense, without affecting the ordinary uses of the building. In the absence of existing party walls, other favorable conditions are frequently found permitting the development of horizontal escapes without prohibitive cost, or it may prove necessary to build an entirely new fire wall running continuously from the cellar to and through the roof, following the line of an existing partition across the building in a strategic position, which is often found to be at a narrow part of the structure. Such a wall develops the sectional division which is essential for this method of effecting a safe escape from fire. Wired glass in self-closing metal sash and metal frames must be provided in window openings which front on hazardous exposures, and in store rooms where inflammable materials and supplies are kept, and certain other details must be provided to make the scheme complete, and which experience in

this field dictates as essential for fire protection. The fire wall must be so located that a stairway, elevator, or other means of exit exists on each side of it, to enable people who may be segregated there to descend to the ground if necessary. These and other features of a similar character are indispensable to complete the scheme, but which would not ordinarily come within the knowledge of the untechnical building owner.

Of course a knowledge of structural materials and correct methods of design and construction of buildings, as well as actual experience in dealing with helpless persons, is also necessary to carry out this method of treating a building, so as to render the result not only perfectly safe and satisfactory, but to obtain that result in the most economical manner.

If there are any oversights or omissions in the treatment, so that weak links remain, a fire may eat through them and render the whole scheme abortive. A complete understanding and knowledge of this method of procedure in all its details are essential; otherwise the result may be a fire trap, and, instead of affording safety, fatalities may result at the critical moment.

When the building is properly rearranged and modified so as to accomplish horizontal escape to safety, it must be equipped with a fire alarm system especially adapted to the new conditions and requirements. A suitable signal should notify only the people within the endangered section where the fire is, thus informing them of the necessity to move out, and should give this information in such a manner as not to unduly excite those who are ill. It will also automatically call the fire-fighting force to the site, and the fire can be either extinguished in its incipiency or confined to the section in which it originated.

Let us consider for the moment these latter features—namely, the fire alarm system and the fire-fighting force suitable to accompany this method of treatment.

Fire alarm systems, as ordinarily designed for hospitals, seem to be patterned after those which one finds in country districts, the requirements being similar, inasmuch as both a village and a large hospital consist of an aggregation of buildings. Under these conditions the fire alarm system consists of fire alarm boxes scattered throughout the buildings and grounds, connecting usually with the power plant. When a fire alarm box is operated, a whistle in the power plant is blown, indicating by the signal the locality of that particular box. The people, knowing that the fire is in one of the buildings located in the vicinity of this box, go there and to the best of their ability help the inmates to escape from the burning

building, and the fire-fighting force also rushes to the place and endeavors to extinguish the fire. As the whistle can be heard by everybody in the buildings within a certain radius, and, in the case of a hospital, as a large number of the occupants of the building may be absolutely helpless, naturally a signal of this kind, indicating danger, is apt to have a disturbing effect on them, particularly on those who may be seriously ill or of a highly nervous temperament.

The special design of building and method of saving the lives of these patients which I developed calls for a particular type of fire alarm system that does not possess these undesirable features. At least one fire alarm box is located on each floor of each section between the fire walls, and, when a fire occurs on any floor, the box located there is operated, and, by means of colored lights and buzzers which do not unduly disturb the patients, informs the nurses or other attendants on that and every other floor in that section only that there is a fire in that section, the number of flashes and buzzes indicating the floor on which the fire is located. The signal is simultaneously transmitted also to the buildings where the help is gathered at work during the day time, or in their dormitories at night, where by loud gongs it calls them to the fire to lend such assistance as may be necessary both to extinguish the fire and to wheel the bedridden patients on their beds to safety.

It is frequently stated that there is no fire (except, of course, one caused by an explosion) which cannot be extinguished at its inception by a pail of water. The principle on which I am working is that of fire prevention and of fire extinguishment at the inception of a fire. For these purposes I endeavor to create such conditions that a fire is not likely to occur, but nevertheless to have fire extinguishers convenient and attendants educated to use them, so that, should by any possibility a fire occur, it can be extinguished before it passes the incipient stage. I also take precautions against the possible spread of fire, and install the fire alarm system of the character described to call a more experienced fire-fighting force, who will be capable of putting out the fire or holding it in subjection until the arrival of the local fire department.

A full realization of the limited capabilities of the unskilled attendants to extinguish incipient fires, and also those who are assigned to the further duty of fighting a spreading fire, must be possessed by the hospital authorities.

Fire is one of the most obstinate and baffling occurrences with which man has to deal. Even firemen who have spent many years in the service

often lose their lives from some slight negligence or carelessness. Years of experience are required to understand the vagaries of a fire in a nonfireproof building. Smoke may issue through a crack in the floor and appear in this particular spot because it is the only vent through which it can escape, leading an inexperienced fire fighter to imagine the fire is located there, whereas it may be in an entirely different part of the building, and, if time is spent in endeavoring to extinguish the fire at the wrong point, it may spread so rapidly at its source as to cut off all means of escape. Intelligence based on knowledge of and experience with fires must necessarily be possessed in order to be effective in efforts to extinguish fires whose source is not immediately apparent. therefore, a fire spread so that it cannot be readily extinguished by the amateur fire fighters with pails of water or chemical fire extinguishers, experience has shown that it is better for them to withdraw and seek their own safety than to attempt to remain and fight the fire with such implements as the standard size hose with high water pressure, to the use of which only ablebodied, experienced, and thoroughly skilled firemen are accustomed.

The essential principles, therefore, which I am advocating in my scheme of providing safety for the lives of the helpless inmates of hospitals are, first, to take such precautionary measures as will tend to prevent a fire; then, should one occur, to arrange for its prompt extinguishment at its source when it is small, and in the meanwhile to provide ready egress from its proximity for the helpless patients without disturbing them. Should the fire extend beyond the ability of the fire fighters to extinguish it, it will at all events be confined to the section of the building between the fire walls, from which only a comparatively small number of people have had to be removed to safety. By this plan only those in the section in which the fire occurs would be in danger and would have to be moved, leaving all the occupants of the other sections of the building undisturbed. The maximum damage to or loss of property would also be confined to the endangered section, thus greatly reducing the possible property loss, and often diminishing the insurance premiums to such a degree that the amount so saved more than pays the interest on the cost of the improvements.

A plan for the erection of a larger and more modern building for the South Omaha (Neb.) Hospital was announced following a recent meeting of the hospital board. According to the report, the need of larger quarters has long been felt. The present hospital was built by the people of the city, and all of the profits derived from it are turned into improvements. The institution is nonsectarian.

RAISING FUNDS AND FINANCING A SMALL HOSPITAL.

Institutions Must Be Popularized by Cooperation and Harmony Within—Appeals to the Public Will Then Be Heeded—Continuous Begging Unwise, But Occasional Campaigns Should Be Made—Organized Solicitation.

By MISS NETTIE B. JORDAN, SUPERINTENDENT AURORA GENERAL HOSPITAL, AURORA, ILL.

PAPER I.

THE poet who said "the love of money is the root of all evil" stimulated his own roots to produce long hair instead of long green. He could never have been inspired to write how to run a hospital without money. The day is past when we discuss hospital finances in a sepulchral whisper, fearful of what the public will say. The hospital is fortunate indeed that has an adequate endowment, but the vast number of hospitals in this country require a constant quest of the elusive eagle.

The Aurora Hospital, of which the writer is the administrator, represents a type of hospital found in the greater number of the smaller cities, and may justly be termed a community hospital. Aurora is a dot found on any Illinois map about forty miles west of Chicago, and within its precincts are found about 35,000 people, with an additional clientele of 15,000 in a radius of fifteen The far greater percent of the people are wage-earning and rural, and so do not represent great wealth and are not monuments of philanthropy. Out of a group of such people one finds many enterprising and public-spirited individuals who are willing to espouse a worthy cause that will bring honor to their city. In this same territory are found two orders of sisters operating hospitals, and combining the three, there is one hospital bed to each 400 inhabitants. Nearly every small city has this type of hospital competition, and a sharper line is drawn by the religious organizations than in the larger cities; thus the hospitals are known as either Protestant or Catholic. With this distinction, there is some difference when money is solicited from the public.

The Aurora Hospital is nonsectarian as to its incorporation and system of electing members on its board, but is commonly known as "the Protestant hospital." It may be classified in hospital parlance as an "open door" hospital, or one which does not have a closed staff, but admits the patients of all reputable practicing physicians; thus the standard of service delicately devolves on the superintendent. The hospital has maintained the broad policy of admitting all who were acutely ill, regardless of race, creed, or financial condition. Our hospital organization does not

boast of greater financial success than other institutions of its size. There are certain underlying principles, which make possible the success of the hospital, that are more important than the mere statistics of money raised.

To me the word "harmony" is the most sacred word in the English language when applied to the hospital organization, for without it little real progress can be made. 'Tis a sad day indeed when the angel of harmony falls ill and the vulture of discord holds sway, for its talons grow longer and sharper if it is allowed to live.

A hospital head has a more delicate task than a tight-rope walker who crosses the Niagara Falls, for in the one it requires physical balance and in the other perfect mental poise. In other words, it requires a dynamic character and a bottled-up magneto. The superintendent must be the logical leader of the organization, and cannot be unless he or she is a great student of human nature as well as informed in hospital technic. So much for the type of superintendent.

Then there must be a live, constructive board, or the hospital will make little real progress. Even to the hospital workers death is always uncanny, and, if there is one dead board member in the midst, it solemnizes the activities of the rest. My advice is to secure a baggage car ticket and ship them back to their loved ones for the obsequies.

I feel that whatever success may be credited to our hospital is due to the present board, whose personnel has changed almost to the last member during my administration, and thus the fossils have been relegated to their respective places in the museum of life. The board members consist of twelve men and three women, all representing an influential clientele in the city because of their business and social standing. Their value is manifold because of a broad business acumen, which enables them to regard the greater interests of the hospital as their specific duty, such as providing funds for work, providing a proper building for the sick, and to serve as a medium whereby hospital complaints may be analyzed and causes removed. The trustees are elected by the churches, lodges, and life members who have contributed money to the institution. For each \$100 given, one annual vote for life is allowed.

¹This is the first of a series of papers on the Administration of a "Small, Self-Supporting Hospital." Next month, "Business System in the Small Hospital."

Everything that is worth while is cooperative, and a hospital administrator must realize and give due regard to the various forces which are constructive or destructive to the organization. On the premise that it takes a hundred friends to offset the influence of one enemy, the philosophy of success depends largely on the major number of active supporters espousing a cause. One of the unaccountable traits of character found in the dear public is the wave of sentiment that works for or against a given proposition. It behooves the hospital workers to strive to keep their standards so high that their institutions are above reproach.

Some suggestions which may be mentally indexed by the superintendents themselves may be mentioned. First of all, keep your doctors happy and in full accord with what you are doing, for a disgruntled one can do more harm than a germ. Many times temperamentally they are like schoolboys, but physically have outgrown the ferrule. Never tolerate a discourtesy to a patient by nurses or employees; regard hospital visitors as guests and not as book agents. Keep "square" with the newspaper men, for they hold a scepter of power which can direct the tide of sentiment for or against you. The newspapers in a small city keep a hospital favorably in the public eye quite the same as other public institutions and do not betray the private interests of an individual. Such items as incubator babies, transfusion of blood from parent to child, extensive skin graft, observance of mothers' day, training school news, and kindred topics keeps the public alive to your existence. With the combined elements which go to inspire public approval, any organized effort for money will be met with a spontaneity that is pleasing and productive of good results.

The first source of income is from the patients themselves. Our rates are very low, and have not been advanced with the increased prices in every line. There is the present competition of the other hospitals, and we have a very old building, which, like most small hospitals, is poorly planned. In spite of the accommodations, the hospital has run at its fullest capacity for a number of years. The private rooms are all \$15 a week and wards \$1 a day. Very little money is uncollected on the private rooms, for the doctors cooperate and give the patients' ratings before they are admitted to a room. The bills that are uncollectible in the wards are presented to the county supervisor and he allows part of it. We keep the cards on file, and work them in until the account is closed. From this source we obtain about \$1,000 a year. The city allows the hospital \$750 a year.

Accident insurance under the liability act pays

some accounts. Nearly all the manufacturers have their men insured, so that at least a ward rate is collectible. The financial problem which this hospital and others of its type have is not the collections on the earnings, but the difference between the earning power and the cost of operation.

Five years ago our deficit was less than \$1,000, and for 1914 the deficit will be \$2,500. The per capita cost for 1914 was \$1.83, and this amount is not a test or precedent for other hospitals, for with that amount patients have been crowded into quarters that were far from ideal, but I am sure that in our new hospital, which is nearing completion, the rate will not exceed \$2.25 a day. At the present time there is no arrangement for an annual campaign, for we have been successful in raising large enough amounts to handle the deficit for a number of years at a time.

In the preceding paragraphs the kind of hospital organization has been shown and also the policy which maintained civic support; then, when an effort was made to secure money, it met with There have been three organized efforts to raise money. The first was a bazar conducted by the Woman's Club, and \$10,000 was raised. The second was the charity tag day, and \$5,000 was cleared. The third was a very extensive campaign for a new building, under the management of a professional campaigner, and \$116,000 was pledged. A new 100-bed hospital is in the process of building now which will cost \$15,000 to \$20,000 more than the amount pledged, so that another effort will be made within the coming year to liquidate the indebtedness.

The bazar was conducted by the Woman's Club of 250 members. The organization consisted of a chairman and about five vice-chairmen, whose duties were assigned until every one of the members had something to do. The arrangements committee took care of the Armory, the place of meeting, advertising, transportation of articles, assignment of booths, etc. The entertainment committee provided two performances daily, afternoon and evening, at the leading theater for the four days of the bazar. The last evening a fancy ball was given, where the booths of the week were made into fancy boxes and sold for \$5 and \$10 each. Each couple was charged \$5, and \$2,000 was realized on the ball alone.

The soliciting committee secured anything as donations from the merchants or tradesmen that could be sold; the cash donations amounted to nearly \$2,000, and the articles were sold from the booths. In no instance were chances sold on any article. The committee on booths were given free service from Marshall Field, and the old Armory was such a paradise that people came

from a great distance to see the display. The finance committee handled the funds and paid the incidental expenses. The dinner committee provided meals, which were served in the churches noon and evening.

A tag day was the second organized effort to obtain money, and I wish to say that, as a plan to obtain a goodly amount of money for a minimum amount of effort and without sacrifice to any donor, the tag day is a good means of securing money in a small city. I should discourage such a plan in a large city, where it may assume an aspect of commercialism. In a small city, where the merchants, manufacturers, and all organized tradesmen cooperate and invite solicitation of their employees, it makes a gala day in which everybody enters into the spirit, and only those born in the dark of the moon raise any objection.

The hospital board served as the executive committee and secured the city hall as a meeting place, and then advertised for all interested citizens to be present. Committees were formed for the duties of advertising, finance, arrangements, woman's committee, and out of town.

The advertising committee secured the cooperation of the city papers, and all advertising, cartoons, and special notices were given gratis. Large placards were printed showing a nurse pouring medicine into a glass, with large letters at the top, "Aurora Hospital needs your help today," and at the bottom, "You may need its help tomorrow." These cards were placed in all the windows of places of business a few days before tag day. The country newspapers for some distance around advertised the affair in the same manner.

The finance committee had for its chairman a popular manufacturer, and the day before started a messenger with a subscription list, telephoning the head of each company in advance of the messenger, and about \$2,000 was subscribed before tag day arrived. He appointed tellers from responsible people, and had the cooperation of the bank that handles the hospital funds, who sent men to care for the money and transfer it safely to the bank.

The committee on arrangements secured tags. boxes, pennants, and accommodations for out-of-town taggers.

The woman's committee had one chairman, who assigned precinct chairmen, who in turn selected committees of workers, who prepared the tags and boxes and secured ten taggers, so that there were about two hundred taggers; no one escaped, for the residence section was visited in the morning and the ones having the lighter work assisted on the congested business streets in the afternoon.

I do not believe in frequent solicitations for small amounts, and the results are better if a well-organized effort is made once in awhile.

The last campaign was organized and managed by a professional campaign manager. I think the success of any of these campaigns depends on the amount of publicity given them and perfect team work, which turns the city into a carnival that directs its earnings into a definite fund. Giving, like many other human qualities, becomes a habit, and the more of this kind of habit that can be cultivated the better for all civic enterprises. Through agitation of this kind, people begin to remember the public institutions in their wills, and thus their permanency is assured.

A superintendent of a community hospital may dream of golden clouds, which are ready to burst with a shower of dimes and dollars, but that officials awakens to find them minted at the end of the rainbow, and an everlasting quest must be made to secure them.

BREAD SHOULD BE WRAPPED.

Colon Bacilli Contaminate 62 Percent of Unwrapped Loaves in New York—Wrapped Bread Also Keeps Fresh Far Longer.

The New York City Health Department has issued the following study on bread, the value of which work to the people everywhere can hardly be exaggerated:

Some experiments recently made in the health department's research laboratory bear out the contention that the only clean bread is that wrapped in the bakery, the wrapping being done in such manner that after baking no hand touches the loaf till it reaches the consumer.

From the details of the study as here reproduced it will be seen that the wrapped bread at present on the market is generally free from bacilli of the colon group, but that the unwrapped loaves, directly in proportion to their exposure, are usually so contaminated. A report of a similar study made under the auspices of the United States Department of Agriculture appears in the September number of the American Journal of Public Health and presents similar conclusions. Only 7 percent of the samples of wrapped bread showed bacilli of the colon group, as compared to 62 percent for the unwrapped bread.

The federal investigators found that wrapping added less than 5 percent to the cost of a loaf, and that the keeping qualities of the bread were greatly enhanced, no change in flavor being discoverable after 42 or even 114 hours. During the 42-hour period, loaves wrapped three hours after baking, in various varieties of paper (waxed and unwaxed) lost on an average less than 2 percent in weight from evaporation, and only ½ percent in paper waxed on both sides. Compared to this, unwrapped bread exposed lost about 12 percent, and even in a glass case 10 percent during the same period. Since evaporation (drying) is the chief factor tending to make stale bread unsalable, the possibility of saving to a baker is evident, and would undoubtedly more than balance the extra cost of wrapping.

Miss Katherine Hoffmann, formerly of Walla Walla, Wash., a graduate of the Ensworth Hospital, St. Joseph, Mo., also a graduate of the Pennsylvania Orthopedic Institute and School of Mechanotherapy, Philadelphia, has been placed in charge of the mechanical department of the Phipps Psychiatric Clinic of the Johns Hopkins Hospital, Baltimore, Md.

¹Since colon bacilli are always derived from intestinal excreta, the significance of such findings is obvious.

TWILIGHT SLEEP-THE RIGHT WAY AND THE WRONG WAY.

Before One May Condemn the Method, He Must Employ It Correctly—That Is not Being Done in This Country—Duty of the Hospital to See That the Freiburg Technic Is Employed.

BY WM. H. KNIPE, A. M., M. D.,

ADJUNCT PROFESSOR OF OBSTETRICS, POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; ATTENDING OBSTETRICIAN GOUVERNEUR HOSPITAL, NEW YORK.

THE general term "twilight sleep" has been employed to describe any and every method of giving scopolamin, hyoscin, and morphin in labor. There is much confusion in the minds of many men regarding the real "twilight sleep." The writings of a few of our eminent obstetricians, some of whom have visited Freiburg, seem to prove that there is lacking an exact and adequate knowledge of the "Dämmerschlaf" of Drs. Krönig and Gauss. It is, therefore, not surprising that, in discussing various methods under the general term "twilight sleep," there should be opinions as various as the methods used.

It must be remembered that scopolamin, hyoscin, and morphin have been used in labor in this country and abroad for more than ten years, but "twilight sleep" had not been used by any of us in this country until within the last few months. By "twilight sleep" I mean the method of using scopolamin and morphin to produce analgesia and amnesia, as developed by Krönig and Gauss in Freiburg.

"Twilight sleep" is nothing more than a matter of (1) pure drugs and (2) technic, and in this country, until very recently, we have used neither. Moreover, there were many clinics in Europe using impure drugs and improper technic that reported bad results with what they were pleased to call "twilight sleep."

In our country Newell, of Boston, came the nearest to the Freiburg method in the use of scopolamin and morphin, but even his solutions and technic differed widely from that used by Gauss. A much-advertised tablet containing hyoscin and morphin in a large dose has been used by many men, and justly discarded because of the dangerous complications following its use. We may look forward to reports of men who, after using these tablets, will tell us they have been using "twilight sleep," and poor "Dämmerschlaf" will have to stand the blame.

There is another group of men, many of whom have visited Freiburg, who will use the method published by Siegel, one of the assistants at the Freiburg Frauenclinic. This is a routine method of using the drugs in which there is entirely too much narcoplin in many cases and in some cases too much scopolamin. Naturally, there will be a certain number of patients who do not fit the routine scheme, and among these there will be a number of bad results. This method is "the easiest way," and "Dämmerschlaf" stands the blame.

I think that Krönig and Gauss are partly to blame for not stating that this Siegel method is only a new experiment in an attempt to simplify the method of "twilight sleep." Most of the men visiting Freiburg see this Siegel method used in the fourth class, and they see nothing else, and, as no one takes the pains to give them a liberal education in "twilight sleep," they naturally leave Freiburg believing they have witnessed the real "Dämmerschlaf" as practiced by Krönig and Gauss. I confess that it was by accident that I discovered the truth of this matter, and on inquiry of Krönig and Gauss the facts were stated and the true Freiburg method was made known. It was necessary to dig for this information.

It seems a great pity that so many Americans, including some of our eminent obstetricians, have visited Freiburg and have returned with so little real information concerning "twilight sleep." The Freiburg method has been freely reported by Krönig and especially by Gauss, and the blame must finally rest on ourselves for not being properly informed.

We hear as much criticism of "twilight sleep" in particular cases demanding craniotomy or the use of forceps as one would expect if the injections of scopolamin and morphin were a cure-all. We cannot expect "twilight sleep" to enlarge a contracted pelvis nor reduce the size of an over-term child; neither should the method bear the blame for bad obstetrical judgment.

The Freiburg "twilight sleep" is nothing but a very mild half-anesthesia, and, if the forces of labor are interfered with to any considerable degree, it means that in the particular case the drugs were not used with sufficiently good judgment. No one who has had experience with the Gauss method maintains that the drugs may be used without discrimination.

There is just as much difference between a proper and an improper "twilight sleep" as there is between an ether anesthesia given by a professional expert and that given by a raw intern or an inexperienced practitioner. There is no more excuse for giving scopolamin in a routine way, and without regard to the reaction of the patient, than there is for a routine dosage in ether anesthesia.

If the hospitals will furnish a proper environment for "twilight sleep," and the physicians of this country will make an attempt to ascertain what the real Freiburg method is, and then use the method with judgment before giving expression to a prejudice which is unscientific and unreasonable, the opinion of these physicians will command more respect from those seeking the truth.

It is well for us to remember that if the formally reported results with "Dämmerschlaf" as practiced by Krönig and Gauss are based on truth—and our experience seems to prove that this is so—no amount of vituperation or ill-concealed envy by our physicians will stop the just demand of women for "twilight sleep," and it is perhaps not out of place to suggest that a little more investigation and a little less vituperation will best serve the physician, the patient and the hospital.

SYSTEMATIC AMBULANCE SERVICE FOR METROPOLITAN HOSPITALS.

New York's Experience Demonstrates That Electrics, Gasoline Cars, and Horses Have Definite Use—Figures of Cost Differ Widely and Are Not Complete—Some Comparisons.

BY NORMAN MAUL, NEW YORK.

SERVING more than 100,000 sufferers a year, the ambulances that bring emergency relief to the sick and injured of New York render a service that is not equaled elsewhere in this country. Even in continental Europe it is doubtful if the work is surpassed. New York's emergency ambulances treated 114,453 patients during 1913. The number will exceed 125,000 this year.

In rendering this service, 41 public and semiprivate hospitals are subject to the call of the city, while more than 100 ambulances are held in instant readiness to respond to the call for help. Needless to say, the maintenance of this ambulance service has presented many problems for solution, and therefore a study of New York's methods should prove of interest to those concerned in ambulance work.

THE BOARD OF AMBULANCE SERVICE.

All ambulances designated for emergency calls operate under the supervision of the Board of Ambulance Service. This consists of the police commissioner, who is its president; the charities commissioner, who serves as secretary; the president of Bellevue and Allied Hospitals, and two members who are appointed by the mayor. The establishment of the board was authorized by the state Legislature in 1909, but its duties were not assumed until 1911. The effect of supervision on a service that heretofore had been run rather loosely and without a responsible head was at once apparent.

There was a decided improvement in equipment. Calls were responded to more promptly, and, as the powers of the board began to be felt, there was a marked falling off in the number of complaints regarding the service. Before the establishment of the board each hospital conducted its ambulance work as it saw fit. Any driver would do, and generally the cheapest was employed. Surgeons were answerable only to their medical board, and undergraduate interns were often sent out on the "bus." Cases were sometimes left in the station house that should have been brought to the hospital. There was no system under which hospitals were paid for their work, and no means of supervising the expense of operation or the efficiency of the ambulances. There were frequent disputes among the hospitals regarding district boundaries, and cases were often "stolen" by the ambulance drivers.

Quite a different condition exists now. There is a periodical inspection of ambulances, their equipment, and operating methods; each hospital renders a monthly report to the city of its ambulance calls as made from day to day; the history of every surgeon proposed for the service is secured, and no one may ride the bus who has not been approved; the bills for ambulance maintenance in such hospitals as are under contract with the board are verified; the district which each hospital shall cover is determined, and all complaints, regardless of their nature, are investigated.

In its supervision of surgeons, the board in the first two and a half years passed on the qualifications of upward of 300 men, 17 of whom failed to meet the required standard. During 1912 two surgeons were suspended and one dismissed from the service for dereliction of duty. It is within the power of the board to take the ambulance district from any hospital that fails to conform to its

requirements, but this power has never been exercised, for hospital superintendents have cooperated with the board in every way for the betterment of the service.

THE INFLUENCE OF THE AUTOMOBILE.

The ambulance service, in common with commercial and industrial progress, has felt the influence of the development of the motor car. New York's first autoambulance was placed in service about sixteen years ago. Today, of the 99 ambulances under the board's supervision, 58 are motor-driven. This development was slow at first, but has moved rapidly during the past two years.



Fig. 1. Army type of ambulance used by Bellevue Hospital in inaugurating an emergency service in New York in 1869.

In 1911 there were 22 motor ambulances, in 1912 there were but 26, while at the end of 1913 there were 51, with the prospect of more being added during the present year.

HORSES INDISPENSABLE.

Yet, while motor ambulances are increasing every year, the time should never come when the horse will be entirely discarded. This statement may seem strange when the economy and speed of a motor equipment are compared with the slower



Fig. 2. Harlem Hospital's electric—Bellevue and Allied Hospitals operate seven electrics, four gasoline cars, and two steamers, augmented by a stable of horses.

and more expensive horse ambulance, but during last winter's blizzard in New York the horse saved the service. High-powered cars were helpless in the drifts, but horses working in teams pulled through. Many "progressive" hospitals that had graduated from the antiquated horse had

to transfer their calls to their less "advanced" neighbors, and for two days the horse ruled the situation. After the snow began to pack and the streets were fairly passable, the motors resumed operations, and the horses were given their well-earned rest. In fact, after the snow drifts had been removed and only the icy coating remained on the pavement, the going became so bad that it was positively dangerous to take out a horse.

ESTABLISHMENT OF EMERGENCY AMBULANCES.

New York emergency ambulance service dates back to 1869, when Dr. Edward B. Dalton inau-

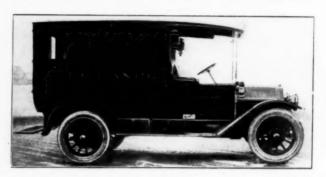


Fig. 3. Fast gasoline ambulance used by St. Joseph's Hospital for long runs through the Borough of Queens.

gurated the work at Bellevue. Dr. Dalton had been in charge of the field hospital ambulance corps of the Army of the Potomac during the Civil War, and when he was requested to submit a plan of ambulance operation for New York he was

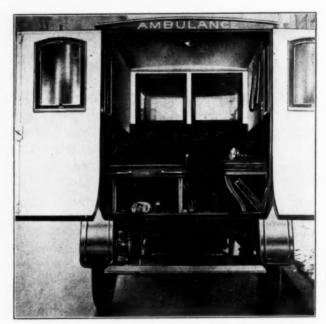


Fig. 4. Interior of St. Joseph's Hospital ambulance.

guided largely by his battlefield experience. The methods installed then have remained practically unchanged during the forty-odd years since; in fact, they have served as a pattern that has been widely copied throughout the country. The ambulance equipment at that time consisted of two vehicles, similar to those used in the army, but of lighter construction. The next year five more were added.

That there had been need for such service was at once evident, for in 1870 the ambulances responded to 1,401 calls. In 1891 Bellevue ambulances answered 4,392 calls, and the number increased every year despite the fact that eventually Bellevue had to share its operations with other institutions.

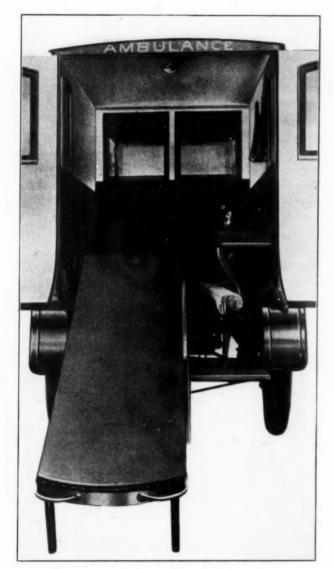


Fig. 5. Removable cot ready to receive the patient.

BELLEVUE'S EQUIPMENT.

Today the ambulance equipment at Bellevue consists of 14 horses, 1 steamer, 3 gasoline cars, and 4 electrics. In 1912 these responded to 11,700 calls. The electrics answer the emergency calls in the immediate neighborhood. Horses are held in reserve, while the steamer and gasoline cars make the longer runs in transfer work.

In the maintenance of its ambulance service, Bellevue has kept no records that permit a close analysis of operating costs. The first electric in use, however, taking first calls answered probably half the total calls that were received each day. From this it was estimated that at about half the total expense the electric did twice as much work as the horse ambulances. It was this estimated economy that led to the decision to electrify the emergency service, resulting in the installation of two additional electrics November, 1913, and a fourth car in March, 1914.

Bellevue is the parent hospital of three other institutions known collectively as Bellevue and Allied Hospitals, all controlled by one board of trustees. The other hospitals are Gouverneur, on the lower East Side; Harlem, up town, and Fordham, in the Bronx. Gouverneur and Harlem serve typical city districts—congested streets, good pavement, with short runs. The down-town institution uses two electrics and two horse vehicles. During 1912 these responded to 6,870 calls. Harlem, with one electric and three horses, answered 7,992 calls. Fordham Hospital faces different requirements; the territory served is large, practically all of the outlying sections of the Bronx Borough calling on this institution; roads are wide, with little traffic, offering opportunity for fast runs, and, as the trips are often five miles or more, the higher power and faster types of autoambulance were sent to that territory. One gasoline car and one steamer during 1912 responded to 3,768 calls.

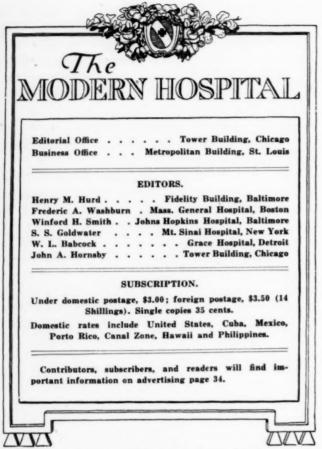
IN QUEENS BOROUGH.

The same condition exists among the six hospitals in Queens Borough. Of the eleven ambulances in this district, eight are horse-drawn for nearby calls and three are gasoline cars for the long runs across the open sections of the still undeveloped borough. Single runs here are of a length that would incapacitate a horse for the rest of the day, and an electric would fare hardly any better. Fortunately there are not many accidents in this section, in 1912 the six hospitals responding to but 3,727 calls.

[To be continued.]

Dr. Frederic A. Washburn, administrator of the Massachusetts General Hospital, has been appointed superintendent of the Massachusetts Charitable Eye and Ear Infirmary of Boston, 225 beds, to take effect January 1, 1915. Dr. Washburn assumes his new duties in addition to his present position. The infirmary is located near the hospital. Dr. Farrar Cobb, for the past twenty years superintendent of the infirmary, resigns to give all his time to his surgical practice.

At the meeting of Pennsylvania State Graduate Nurses' Association held in Pittsburgh in November officers were elected as follows: President, Miss Susan B. Francis, of Philadelphia; first vice-president, Miss Roberta West, Philadelphia; second vice-president, Miss Katherine Dempster, Pittsburgh; secretary and treasurer, Miss Willimina Duncan, Pittsburgh; directors, Miss Ida F. Giles, of Philadelphia, and Miss Nellie MacAfee, of Pittsburgh. It was decided to hold the next convention in Philadelphia in November, 1915.



The Treatment of Mental Cases in General Hospitals.

The recent twelfth annual report of the operations of a pavilion for the care and treatment of mental cases in connection with the Albany Hospital is full of interest and instruction to other hospitals. This pavilion was established thirteen years ago in connection with the hospital at the suggestion of physicians who were interested in securing prompt treatment for mental cases, without the formality of legal proceedings at the outbreak of their disease, when the condition of the patient required his removal from home. Up to this time, and even later, there had been difficulty in procuring in the city of Albany any adequate and proper treatment of urgent cases of mental disease without legal proceedings before a court. This in many instances occasioned delay and in others produced a severe shock to the patient, who was generally in no condition to appear in court. The pavilion was established in a tentative way at first in connection with a ward in a general hospital, its capacity was small and its location was not in all respects well suited to the best care of delirious patients. Its success, however, was evident from the start, and the necessity of such provision in connection with many other municipal hospitals became equally evident. It has already had many imitators and will have many more.

Through subsequent enlargements the pavilion now affords accommodation for 33 patients-16 men and 17 women. During the past year there have been treated here 384 patients, of whom 189 were so far restored or improved as to be able to go back to their own homes. One hundred other patients, after a longer or shorter residence, were found to require other treatment, and were declared to be legally insane and were committed to institutions for the insane. Thirty-five patients under treatment died during the year. It will be seen from the above figures that during the year 49 percent of the cases admitted recovered or were improved. During the entire history of the pavilion 3,133 patients have been treated, of which 1,670, or 53 percent, have been able to return home without having recourse to institutions for the insane. The saving to the community of the work of this hospital is well shown by these figures.

It is evident from examining the statistics that cases of delirium, whether from bodily disease or from alcoholic excess or drug addiction, form the greater portion of those persons who are benefited by such hospital treatment. Cases of delirium proper generally develop among those who display mental symptoms in association with physical disease, either due to an unusual degree of toxicity in the disease itself, as in typhoid fever or pneumonia, for example, or from an extreme susceptibility of the nervous system of the individual. In these cases, owing to a disarrangement of the higher functions of the brain from toxic conditions, the patient is unable to exercise selfcontrol, and his actions show a suspension or a perversion of the will-power. A similar mental disorder may be due also to an exhaustion of the brain cells or to the presence in the blood of some toxic element, such as the poison of alcoholism or of drug addiction. In some cases both causes operate and the proper treatment requires the elimination of the toxic agent from the system, together with a restoration of the nutrition of the brain by rest, quiet, and nutritious food.

When the pavilion was established it was anticipated that it would be used solely for the temporary care of cases of insanity until such time as they might be transferred to proper institutions. It has been found, however, year by year that a larger number of patients who have thus been sent to the institution have recovered, and do not need to go to other institutions. It has been found also that the majority of patients are admitted in a condition of more or less extreme exhaustion, and that their mental symptoms are directly due to this condition. The treatment is simple, and looks to procuring for the individual rest and quiet and a restoration of the normal

functions of the body by proper medical treatment. It is interesting to note that during the past summer steps were taken to provide similar facilities for the noncompulsory treatment of early and consequently uncertifiable mental cases in London, England. Many medical practitioners and members of Parliament have recommended that provision for this should be made in municipal hospitals, and that certification of insanity should be restricted to those cases in which, from the serious nature of the malady, it becomes absolutely necessary for the restoration of the patient and his own safety or that of the public that he be committed; and that incipient cases should have treatment in reception hospitals, observation wards in infirmaries, or wards of general or special hospitals.

It is to be hoped that a similar movement may be inaugurated in the United States, so that incipient cases of insanity, or cases of delirium which are not necessarily insane cases, may have facilities afforded for efficient treatment in municipal hospitals.

HENRY M. HURD.

Modern Sterilization.

Thirty years is a long time to look back on when we are thinking in terms of the science of bacteriology. Thirty years ago we were just beginning to realize the germ theory of disease; we had gone just far enough to appreciate the fact that a good many diseases were caused by microorganisms. We had not begun to know the life history of the various forms of microscopic life; we did not even know the particular microorganism that caused more than two or three diseases, but we suspected there were a great many more, and we began to think about terminating their inroads on the human system.

It was at this point that Mr. Frank J. Sprague designed the first dressing sterilizer, and, operating under the same general principles that guided him, sterilizers for other purposes were built shortly afterward.

At that time there was a general belief that microorganisms all required about the same degree of heat to destroy them, and in that day we had not even separated the spore-forming microorganisms from the nonspore formers, at least in so far as their life history, their physical characteristics, and resistance to destructive agents were concerned.

Mr. Sprague was told that, in order to destroy germs, he would have to develop wet heat of about 250° F., which meant to a physicist like Frank Sprague that he would have to develop a steam pressure of from 15 to 17 pounds.

He went to work on this theory and built what we know today as the dressing sterilizer. The instrument for the sterilization of dressings that we would buy tomorrow, if we wanted a new one, would be identical in principle with the instrument that Frank Sprague made. Not one single improvement in principle has been made. Conveniences have been added; some parts have been strengthened where weakness had developed in the Sprague instruments; new doors were put on, the steam connections have been somewhat elaborated, and the present instrument is a very much prettier machine than Frank Sprague made, but it is precisely the same in all essential principles.

And yet bacteriology has made some progress in thirty years. We have learned, for instance, the physical differences between the spore formers and the nonspore formers, and the death point of each under different varieties of heat. have learned that there are three spore-forming microorganisms that are enemies of mankind and likely to cause infection-viz., the gas bacillus, anthrax, and tetanus. We have learned about most of the so-called pathogenic, or harmful, nonsporeforming microorganisms; we know that these are the streptococcus, the staphylococcus, tubercle bacillus, the diphtheria microorganism, the typhoid organism, the pyoceaneus, and the dysentery organisms. We know pretty well about the meningitis organism, and, thanks also to Flexner, are learning about the poliomyelitis organism; we strongly suspect a scarlet fever and measles organism, and organisms that cause some of the other exanthemata, and, moreover, we suspect that when these organisms are finally located, they will not differ essentially, at least in their physical resistance to destructive agents, from the other nonspore-forming microorganisms.

Now, then, is our present-day sterilization logical in view of our newer knowledge in bacteriology? Perhaps the catgut manufacturers know more about the spore-forming microorganisms from actual experience than anybody else. They are constantly dealing with tetanus in the preparation of catgut, and they tell us that the sporeforming microorganisms can be killed only by a very high heat maintained over a considerable period of time, or, better still, by the fractional method, where the process is repeated at certain intervals. I believe it is generally conceded that spores are destroyed at 300° or considerably over twenty pounds of steam pressure, maintained for half an hour or longer. If that is true, then we are not destroying spores in our fifteen pounds 250° F. that we apply in our dressing sterilizers.

I believe it is generally conceded that moist

heat at 212° maintained for a few minutes, perhaps five or ten at most, will destroy all the nonspore-forming microorganisms. If these statements are true, then we are doing not nearly enough with our sterilization to destroy sporeforming microorganisms, and we are doing far too much if we are intent only on the destruction of the nonspore formers. We might paraphrase the old maxim and say that if "'twere well 'twere done, 'twere well 'twere well done;" but in this particular case every day it is costing this country a lot of money to overdo a thing. Our sterilizers are now being made double-jacketed for dryingout purposes, and they are made to withstand a steam pressure of a good many more pounds than we ever test them under. The manufacture of these steam containers is a costly process. Manufacturers are compelled to use very high-grade materials. They must get their tensile strength right, and the assembling of their parts must be done under correct mechanical principles that are costly in the doing. In other words, in a sterilizer that now costs us, say, \$400, about threefourths of the money expended is intended to do something that we don't intend to do at all.

I doubt whether there is an eminent surgeon in this country who would ask that his sterilization provide for the destruction of spore-forming microorganisms, and his reason would be entirely logical. Every year four or five people are killed in this country by lightning while they are walking in the open, but we don't carry a lightning rod with us when we walk; quite a few people are killed on railroad trains, but we ride nevertheless; and so perhaps a spore-forming microorganism might at some time get tangled up with our dressings, but the occurrence would be so rare that it would seem that no surgeon would insist that every sterilization provide against this rare accident.

We feel perfectly safe when we boil typhoid stools and diphtheria-infected clothing for a few minutes at 212°. Why are we not safe using the same temperatures for the other organisms that have precisely the same heat-resisting properties?

The point that I wish to make is that the time has about come when some advances should be made in sterilizing apparatus. There is no doubt that we are sterilizing things properly in our operating rooms if the prescribed methods are followed, but without any question the apparatus with which to do this work is costing far more than it need cost.

Sterilizer manufacturers are entirely right in making the apparatus that they do now make and sell to hospitals, because, in a final analysis, the medical profession must say what proper sterilization is, and there is no doubt that the makers of sterilizers would be glad to cheapen their product if the medical profession would sanction it.

To my way of thinking, a cast steel, single-jacketed container can be made at very small cost that would give us wet steam practically without pressure, or with only a pound or two of pressure, that would do everything that our costly sterilizers now do.

There are, of course, some details that would need to be settled—such, for instance, as the drying-out process—but these details are entirely capable of solution.

JOHN A. HORNSBY.

Professions-Or Labor Unions?

A few days ago the members of a training school class in a New York hospital "struck," out of sympathy for somebody, and quit work. Two of the nurses who were assisting in a surgical operation left the patient in the midst of the operation, and bystanding physicians, necessarily unacquainted with the technic of the nursing department, helped to finish the operation. The patient died from a septic endocarditis. The doctors gave an interview, saying the death had not been caused by the nurses leaving their post. It is certain that the patient died from a sepsis; who knows where it came from or how much the untrained emergency assistants had to do with the sepsis?

A few days ago also—towit, on December 4—twelve interns in the Kansas City General Hospital "struck" for better food, and for two days refused to go on the wards, to dress patients, attend emergencies, or perform any of their duties. The board of trustees of the hospital emphasized their total unfitness for the duties they are called on to perform by compromising with the strikers, who went back to work at the end of two days under an agreement by which their grievances were proposed to be remedied.

To what has the medical profession come, and to what has the nursing profession come? Or, better still, is there a medical profession and a nursing profession, or are there merely new additions to the social order of labor unions?

The nurses in the New York hospital were guilty of the highest crime short of murder. Those who participated in the strike should be driven out of uniform and should be kept out.

How much more of a crime was it for men who are supposed to have arrived at the dignity of Doctor of Medicine? Words are weak when they are called on to express the shamelessness of the action of these young men. Instead of being put back to work under a compromise agreement, there should be a criminal law to fit their case, and at the very least they should be branded by the institution in which they have proven themselves so unfit; their names should be published to the medical profession at large, and they should never be trusted again in the high calling which they have disgraced.

Oftentimes these young people have bad advisers, and are not always to blame; hence there should be a new principle of conduct, and it should be standardized, and thoroughly well understood, for interns and nurses who have a grievance while in the performance of their duties. The "strike" is no cure for grievances under such circumstances. Medicine and nursing are not labor trades, and there are other ways of curing grievances for those engaged in these two sacred professions. Unfortunately such herculean efforts were made to cover up the disgraceful New York incident that even the name of the hospital was not published, and we do not know the details, but there is no doubt that these young women were badly advised, and the people in control of the institution were not wise enough to handle a delicate situation, and a remedy ought to be applied higher up in their case.

In the Kansas City case, if there had been a competent superintendent in the hospital, the men never would have struck, and, having struck, if there had been a competent board of directors in charge, they should never have been allowed to go back to work. It is beside the question to say that the work had to be done and there was no one else to do it: that is not true. There are enough high-minded medical men in the Kansas City profession to have manned that hospital a hundred times over, and they would have been glad to do it. The trouble in Kansas City is that the sick poor are being made the victims of a renaissance of the public hospital, which the mayor several months ago turned over to the politicians.

THE MODERN HOSPITAL warned Kansas City at the time that the people should rise up in their indignation and prevent the prostitution of that hospital. Now the harvest has come, it is too bad that innocent sick people are made to suffer.

Policies in Boston City Hospital.

It has been announced that Dr. John J. Dowling, of Boston, has been appointed superintendent of the Boston City Hospital, vice Dr. John H. Mc-Collom, retiring on account of age. Dr. Dowling graduated at Harvard Medical School in 1894, and has practiced medicine in Boston since. Those who know him say that he is an excellent physician, a clean, highly reputable man, and a scholarly gentleman.

But why an untrained administrator for the Boston City Hospital? The statement has been made repeatedly by those capable of judging that there are only two municipal hospitals in this country that are efficient and up to date, and that the Boston City Hospital is one of these. A very large part of this efficiency has been due to its superintendents, more notably to Dr. Rowe, during whose long service the institution became one of the best hospitals in this country, public or private.

Is that splendid institution, which has been a pride to Boston, an inspiration to the rest of the country, and a boon to thousands of dependent sick who have passed through its doors, to be now thrown as a feast to the politicians? No other conception is possible, else an untrained man would not be appointed its executive head, a position that requires the highest order of special training.

The people of this country are more than tolerant of politicians and their peculiar propensities. The people allow their public business to be parceled out to those who can deliver the votes, and, if the people can stand it, The Modern Hospital can; but this prostitution of a noble hospital to the god of graft is something else. Are there no holy places, even in the eyes of the professional politicians? Cannot the poor and the sick and the distressed be guaranteed adequate skill and conscience for the cure of their diseases?

It is beside the question to plead that Dr. Dowling is an upright and a conscientious man; he is ignorant of the duties he is to be allowed to perform, and ignorance concerning the care of the sick is the highest possible crime.

It will be interesting to know whether the boasted culture and the widely heralded humanitarianism and the admitted progressiveness of Boston will permit the fine old Boston City Hospital, which all hospital people, the world over, have come to honor and revere, to become a plum in the political grab bag.

And how about its board of trustees? When Mayor Curley took office a year or so ago, one of his first acts was to call on the trustees of the Boston City Hospital to make a study of their problem to the end that they should be able to map out a program for the institution that would guide it wisely far into the future. We heard that the board went to its task with enthusiasm and a high purpose. The Modern Hospital

complimented the board editorially on its splendid opportunity at the time.

Is the appointment of Dr. Dowling the fruit of the labors of a board that aimed so high? or, has the matter been taken out of their hands? And, if the latter is the case, what are the members going to do about it?

Dr. Hirsch's Papers on the X-ray.

We cannot too highly recommend a careful perusal of "The X-ray Laboratory," the first installment of which appears in this issue. Dr. I. Seth Hirsch has made a thorough study of equipment and methods in the best laboratories in this country and abroad. As director of the x-ray laboratory at Bellevue Hospital he has gained a wide and practical experience in the organization, methods, and routine of this most important and fast-becoming indispensable department of our modern hospitals. Thus, by exceptional training in his specialty and by wide experience in active hospital service, Dr. Hirsch is preeminently fitted to efficiently cover every angle of this subject.

The application of the x-ray, from the detection of foreign bodies and diseases of bones and joints to the examination of digestive disturbances, now leads to cures in many long-standing troubles. Cancer is diagnosed early and sometimes cured by treatment or operation. In combination with cystoscopic examination, obscure diseases of the kidneys are detected. Methods are being elaborated for the exact measurement of the heart. We may confidently hope through utilization of the x-ray in correction of gastric disorders in children to throw much light on proper methods of infant feeding.

The x-ray departments of our hospitals have already proven of the greatest value, and hold out promise of far greater usefulness for the future. Let us by all means properly maintain and expand them.

Asepsis and Antisepsis in War.

At the end of October, M. Tuffier, the distinguished surgeon of the Beaujon Hospital in Paris, made a report to the French Academy of Medicine in regard to his investigations at the battle front, which had been made at the instance of the French minister of war.

He had many things of interest to offer, mostly of interest to the medical and surgical professions, but his report contained a paragraph of very great interest to the hospitals of this country—viz., that in which he drew attention to the method of treating wounds, and his conclusions were that antisepsis had proven far more efficacious in the treatment of wounds than asepsis;

another conclusion was that wounds treated by wide open drainage got well far quicker and with vastly fewer unfavorable incidents than those that were closed up, no matter how clean the field had been rendered previously.

Let not the American hospital administrator feel that there is any inconsistency in Professor Tuffier's preference for antisepsis in the treatment of these bullet and shell wounds. Invariably a wound received on the battlefield is infected in the very nature of things; the bullet or shell fragment is itself unclean, and more often than not it carries into the wound pieces of infected clothing or other foreign matter. It would be impossible to treat such a wound as clean surgery because asepsis implies merely the keeping out of infectious matter, and makes no pretense at the destruction of pathogenic or harmful microorganisms. In our hospitals it is our aim to do clean surgery—that is, to perform our operations so that no microorganisms will invade the field, and then, and then only, may we expect a wound to heal by primary union—that is, without the formation of pus.

Professor Tuffier was not talking or writing about clean hospital surgery in his report. He had reference only to wounds that were infected in the making.

Anniversary of Dr. John M. Peters.

We are beginning to make history in the hospitals of this country—history that is worth handing down, and, as in almost every other walk of life, the epochs of hospital history hinge on the personal achievements of individuals. Milestones along the hospital highway in this country are marked with the names of Rowe, Hurd, Ludlam, Fisher, and the achievements and character of these men are setting high-water marks for the men of a younger generation to strive for.

On the evening of October 28 a dinner was given at the Turk's Head Club in Providence, R. I., by two hundred physicians and personal friends, to Dr. John M. Peters, on the twenty-fifth anniversary of his superintendency of the Rhode Island General Hospital. On that evening Dr. Peters' name was officially added to that splendid list of those who have marked out for us the high lights in hospital history, and have brought to us the present high character of our institutions for the care of the sick.

Dr. Peters was surrounded by those who knew him best and longest, and many of them spoke beautifully of what his service to the Rhode Island Hospital had meant, not only to his own institution, but to the service of the sick everywhere. Dr. Howard, superintendent of the Peter Bent Brigham Hospital; Dr. Washburn, superintendent of the Massachusetts General Hospital; Dr. G. Alder Blumer, superintendent of Butler Hospital; Dr. C. Irving Fisher, Dr. Robert L. Wilson, Mr. Robert I. Gammell, were some of the speakers of the evening. A beautiful gold watch and chain, monogrammed and appropriately inscribed, was presented to Dr. Peters by Dr. Jacob C. Rutherford, spokesman for the assembled guests.



DR. JOHN M. PETERS.

It was a gala evening, and one wonders if it was not worth the twenty-five years of unremitting work that Dr. Peters has given to the service of the sick to receive the appreciation of the splendid men who met to do him honor.

All Dr. Peters' professional life has been given to the Rhode Island General Hospital. Immediately on his graduation from Harvard Medical School in 1887, he entered the hospital as an intern, and two years later became its superintendent on the retirement of Dr. Woodbury. During the first year the hospital passed through its doors 971 patients; after twenty-five years the institution had so grown that last year the total number of patients was 7,625. The average stay in the

hospital twenty-five years ago was thirty-two days; now it is less than half that number, which is in no small degree a test of efficiency.

Anniversary celebrations have always a note of pathos and a little sadness, mingled with the pleasures of the occasion. Fortunately Dr. Peters is yet a young man, and let us hope that for many years longer his strength and courage will be spared, that he may add to the debt the world owes him for the highest service that man can render to man.

The Retirement of Frank M. Elliot.

Hospital trustees come and go. Most of them accept the honors of office with becoming grace and nonchalance, not to say indifference. They sometimes attend board meetings of their hospi-



FRANK M. ELLIOT.

tals, and a great majority of them end their service there. The times are changing in this respect, and hospital trusteeship is now becoming a serious business with conscientious men and women. But it has not always been so.

It is refreshing, therefore, to be privileged to tell a little story of one man's hospital service and its fruits. Twenty years ago Frank M. Elliot, then one of the younger leading business men of Evanston, Ill., became a trustee of the Evanston Hospital, which occupied two rooms over a store in the business part of the then small town. A year after his election as a trustee he was made president. Since that time more than 12,000 patients have passed through the hospital, there is a permanent endowment fund of nearly \$750,000, and there is now a beautiful group of buildings with a total capacity of 200 beds. Last year the total number of patients was nearly 2,000.

Mr. Elliot retires from the presidency and from the board of the hospital because the growing cares of his office were becoming too great with his other many duties and responsibilities. On his retirement the board of trustees passed the following resolutions, of which any man must be proud:

The board of directors of the Evanston Hospital has issued the following resolutions regretting the resignation of Mr. Frank M. Elliot, who served as president of the board for twenty years:

Whereas, for more than twenty years Frank M. Elliot has been active as a director of the Evanston Hospital, and for the last nineteen years has been its president; and,

Whereas, under his wise and careful guidance the hospital has prospered and grown in efficiency and capacity from a 2-bed emergency hospital in a rented house to its present capacity to care for 150 patients, having a plant costing nearly \$500,000, and with an endowment of nearly \$800,000; and.

Whereas, during his terms of office the community at large, by reason of the hospital, has reaped a constantly increasing harvest of the most expert and scientific medical, surgical, and nursing care, given freely and unstintedly to the needy; therefore, be it

Resolved, that the association hereby express its keenest regret for the necessity that prompted his withdrawal from all active part in this work, and gives voice to the deep and full sense of its appreciation of and thankfulness for the years of constant and sustained care he has given to this work, which has resulted in our present attainments; for his ability and personality; for the wisdom and energy he has given; for the thought he has lavished; for the broad, lasting foundations he has laid; for the precedents he has made—and all these only in a measure express the good he has done; and be it further

Resolved, that this expression be spread upon the minutes of the association.

> FRANK H. ARMSTRONG, Chairman of Committee of the Board of Directors.

THE MODERN HOSPITAL is delighted to pay its modest tribute to a man who has been a shining example of the ideal hospital trustee. He has given his time, his energy, his money, and calm, resolute, conscientious service and his unusual business acumen to his institution. We commend his example to trustees everywhere.

A quarter of a million dollars for the erection of a hospital for adult male convalescents on the Parental School estate in West Roxbury, Mass., has been provided for in the will of a wealthy Bostonian of advanced years, whose name has not been made public. The bequest was announced by Mayor Curley, of Boston.

ENTERTAINMENT IN A HOSPITAL.

Sermons on Death Not Conducive to Convalescence—Different Kind Tried With Success.

Some time ago the superintendent of the Grand Rapids (Mich.) municipal sanatorium went to the mayor of Grand Rapids with a statement that she needed something to liven up the place and the patients. They had been having religious services each week, consisting too often of the singing of the staid old hymns and a sermon on preparation for death, but the character of these services was depressing rather than such as to give the patients new interest in life and courage to keep up the fight, and the result was that after each service the superintendent found herself with a lot of weeping, discouraged patients on her hands. She felt that they needed something different. The mayor agreed with her, sought out a certain minister, and told him the superintendent's troubles. The minister at once volunteered to make an effort to put on an entertainment with some life in it. For the occasion the hospital was decorated with flowers, the park board supplying a vast display. The vested choir of the minister's church sang lively, cheering songs. There were recitations and instrumental music, and some stirring talks. The entertainers themselves were the embodiment of good cheer. The patients enjoyed every minute of the program, and it had a wholesome effect on the entire institution. The innovation was so successful that this sort of diversion is to become a permanent thing.

Value of Statistics.

Dr. Frederick L. Hoffman, in an address before the National Organization for Public Health Nursing, gave as his opinion that every hospital as well as every visitingnurse association should consider itself accountable to the committee for work with which it is charged. He notes as an exception to his criticism of hospital reports the Johns Hopkins Hospital, of Baltimore, than which no institution in the world gives more intelligent publicity to the general facts of its experience, the experience data being intelligently correlated to the population statistics of its community-chiefly, of course, to the four elements of white males, white females, colored males, and colored females; that the varying distribution of these four elements considerably affects the experience of any institution operating in a community with large negro population. The practical value of such correlation data is brought out by the statement that, in proportion to population, the admission rates to Johns Hopkins Hospital were 80 per 10,000 for white males, 70 for white females, 100 for colored males, and 135 for colored females. The startling fact disclosed by this analysis is that, in proportion to population, the admission rate for colored women to the Johns Hopkins Hospital is twice the admission rate for white women.

Recent investigations prove conclusively that cancer of the uterus is more common among colored women than among white women, and the experience data of the institution referred to are, therefore, of practical value in the study of an important phase of the race problem. The doctor adds that there are no convincing reasons why every other large hospital in this country should not publish annually the results of its experience in equally useful and convincing form.

The Home for Destitute Crippled Children and the Mary Thompson Hospital at Chicago will each receive \$100,000 through the will of the late Alexander A. McKay.

STATUS AND PROBLEMS OF OUT-PATIENT WORK IN 1914.1

Dispensaries Growing Rapidly in Numbers, But Improving Slowly in Standards of Service—Questionnaire Reveals Ignorance as to Results—Facts and Funds Needed For Future—Some Interesting Findings.

BY MR. MICHAEL M. DAVIS, JR., CHAIRMAN, BOSTON; DR. A. R. WARNER, CLEVELAND; DR. JOSEPH B. HOWLAND, BOSTON; DR. WILLIS G. NEALLY, BROOKLYN; DR. RALPH B. SEEM, BALTIMORE.

The year 1914 may be remarked by those interested in dispensaries and out-patient departments because of the appearance of a United States census report on the subject. As the report rendered by this committee last year foreshadowed, the list of institutions published by the census bureau is incomplete, but the report furnishes a working basis, from which we see that a very remarkable development has taken place in recent years.

There exists today in the United States between 700 and 750 dispensaries and out-patient departments established for charitable work among the sick. Without going into the details of the manner in which the following estimates are made on the basis of the census report and other information, this summary may be presented:

General dispensaries	400
Dispensaries for tuberculosis only	300
Dispensaries for other special diseases, chiefly eye,	ear,
nose, and throat, gynecological, etc	60
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Were we to add to this a number of clinics established solely for preventive work among babies and not treating the sick, we should have a total of nearly 900. In addition to these are a number of school clinics, chiefly for dental work; a few private out-patient dispensaries, charging high fees and doing high-grade work; and, finally, in some cities there are commercial dispensaries, not always on an ethical basis.

Putting the preventive, school, and commercial clinics aside, the striking fact is that the number of dispensaries is seven times as great today as it was in 1900. There were three dispensaries established in the United States in the eighteenth century, but the number increased very slowly until toward the close of the nineteenth. The rapid growth has been since the beginning of the twentieth.

The dispensaries are widely distributed. All but ten states in the Union have at least one dispensary. Of the 400 general dispensaries, approximately 75 percent are in cities of over 100,000, 15 percent in cities of between 20,000 and 100,000, and 10 percent in towns of less than 20,000. The establishment of a number of dispensaries in the smaller communities is one of the most recent and interesting features of this movement.

Admittedly the dispensary has been a relatively neglected part of organized medical work, but it has clearly grown too much to stay so. In 1900 there were about 100 dispensaries in the United States, 80 to 90 of these being general dispensaries. The number increased, year by year, with considerable rapidity, so that in 1904 the census bureau, which then made a survey, reported 156 institutions, the actual number, allowing for probable omissions, being toward 200. Most of these, again, were general dispensaries, the remainder being for diseases of special organs, chiefly eye, ear, nose, and throat. The growth of general dispensaries has continued, as may be

seen from the preceding figures, the number of these having multiplied four times since 1900 and two and a half times since 1904.

One of the reasons for this growth has undoubtedly been the increasing demand of medical men for clinical material, both for experience and for teaching purposes. Another reason is the growing demand on the part of the public, particularly the part of the public receiving low wages, which, in the large cities, has been put under heavier and heavier pressure by the rising cost of living. A third and very important reason is the growing interest in public health, which has taken up the dispensary as an agent in its campaign. This has undoubtedly played some part in the development of dispensaries treating general diseases. It has been the chief cause leading to the establishment of a very large number of out-patient clinics treating special diseases, particularly tuberculosis. Today the antituberculosis movement is well organized, with branches in almost every state in the Union, besides a national association, and it is well financed.

The establishment of dispensaries has been part of the antituberculosis campaign. In 1905 there were 18 tuberculosis clinics in the United States, most of which were departments of general dispensaries. On May 1, 1913, the tuberculosis directory, issued by the National Association for the Study and Prevention of Tuberculosis, recorded 293 dispensaries especially for tuberculosis, and nearly 100 additional tuberculosis clinics which were part of general dispensaries or out-patient departments. Thus, in less than ten years 300 tuberculosis clinics have been established, and every year now sees their extension in cities over which the antituberculosis movement is sweeping.

The campaign against infant mortality has similarly taken up the dispensary clinic as an aid, and so have the more recently initiated campaigns, all nationally organized, for the promotion of mental hygiene, sex hygiene, and for the study and prevention of cancer.

Business enterprises—including railroad, mining, and industrial corporations—are establishing dispensaries for the treatment of employees and the members of their families. These tendencies of the present-day public health movement are in their infancy. If they develop as they are likely to do, they are bound to enlarge greatly the extent and character of dispensary work.

Finally, the demand for hospital efficiency has caused the physicians and hospital administrators of a number of hospitals to see that the out-patient department can be of great assistance to the wards in the following up of discharged patients and in other relations to the hospital service. It is more and more recognized that a good outpatient department is an asset to the hospital itself, as well as a benefit to large sections of the community.

We mention these points to illustrate our belief that the very rapid development of dispensary work in recent years is the result of a real demand, coming from many sources and widespread over the country, and that the dispensary work, therefore, is becoming too important to remain solely the "poor relation" of the hospital.

It will be asked whether the growth in dispensaries has not gone too fast and too far. There is no doubt that the increase in numbers and in size in dispensaries and outpatient departments has, on the whole, outstripped the development in administration and clinical technic, and also financial support. We know that the members of this association who are connected with medical institutions maintaining dispensaries or out-patient departments are sincerely desirous of making any practicable improvements in their out-patient service, and also that many

¹Report of Committee on Out-Patient Service, read at the sixteenth annual conference of the American Hospital Association, St. Paul, August 25-28, 1914.

members connected with hospitals which have considered or are considering the establishment of out-patient departments will welcome suggestions and discussion concerning the best method.

With the limited means at its command, the committee has sought to ascertain facts about the present organization and practice of dispensaries and out-patient departments, and we present some of the facts ascertained and some recommendations based thereon, in the spirit of presenting suggestions rather than criticisms, and with the recognition that the whole subject of out-patient service is as yet in such a formative state that no committee is entitled to lay down final principles.

What follows relates almost entirely to general dispensaries and out-patient departments. A question blank was sent out to about 360 whose addresses were obtained from the census report and other lists, and the committee was much gratified to receive 185 replies, of which over 163 came in time, or were sufficiently filled out, to be capable of compilation and tabulation. The tuberculosis dispensaries have been the subject of a special inquiry in cooperation with the National Association for the Study and Prevention of Tuberculosis, but the returns from the questionnaire thus sent out have not yet fully come in.

Of the 400 general dispensaries in the country, about 250, or 62.5 percent, are out-patient departments of hospitals, and the remaining 150, or 37.5 percent, are dispensaries independent of hospitals. Of the 160 institutions that replied to the questionnaire, 118 were out-patient departments and 43 were independent dispensaries. The following table shows the distribution as to size:

	Out-Patient Depts.	Dispen- saries.
Receiving less than 2,500 visits a year	15	5
Receiving 2,500 to 10,000 visits a year.	29	14
Receiving 10,000 to 30,000 visits a year.	36	8
Receiving 30,000 to 60,000 visits a year.	14	4
Receiving 60,000 to 100,000 visits a year.	14	0
Receiving over 100,000 visits a year	4	5
Number of visits not reported, but returns tabulated in other respects	6	7
*	118	43

The first matter to which we may look for information is organization. Dispensaries, dealing as they do with large numbers of people over whom the same control cannot be exerted as over persons confined within a hospital, must be organized with especial care if definite and satisfactory results are to be expected.

The first requirement of organization is a head. On this point, in answer to the question as to the person in authority, 21 out of 118 out-patient departments made no answer. In 24 it is reported that the clinical physicians exercised all the executive authority as well as the medical responsibility. In 11 a clerk, orderly, janitor, or other person, to whom of course no real executive authority is given, is stated "to decide admissions and direct employees." In 11 other cases-mostly very small out-patient departments attached to small hospitals-the superintendent himself or herself is said to take personal direction of the out-patient work. In 44 cases the superintendent delegates a representative to "decide admissions and direct employees." In 5 of these cases this representative changes frequently, and in a considerable proportion of the remaining 39 the representative of the superintendent is a house officer or a nurse, who has other duties, and at no time is in a position of real responsibility for more than the supervision of mere daily routine. The number of hospitals which have placed in charge of their out-patient departments a trained officer, lay or medical, with relative permanence of tenure and real authority,

may be counted on the fingers of two hands. An outpatient department receiving 100 or 500 visits from patients daily, and having 5, 10, or 15 medical and surgical departments, each with its staff, needs somebody to supervise its routine, and also needs a head to think about its problems just as a hospital does. Are we likely to have satisfactory routine, much less real development in meeting problems, if such an institution has no head? The superintendent of the hospital must either be relieved of enough other duties to enable him to give some real attention to the out-patient department, or he must have a permanent, responsible, and trained representative.

Among the dispensaries not connected with hospitals the same is true, for in only a few cases is the titular head an official with special training. Thus, out of 18 cases in which the salary paid to the head was stated, 15 reported \$1,000 or less. Of course, some of these dispensaries are small places, but of 8 receiving over 10,000 visits a year 7 reported that their head was paid a salary of not over \$1,000.

As a necessary consequence of inadequate organization, dispensaries and out-patient departments have loosely administered admission systems; the routine of transfer of patients for medical consultation between different clinical departments is not worked out; record systems are lax; and, perhaps more important than all, the problems and needs of the dispensary are thought out by no one and are not adequately presented to the responsible authorities of the hospital, in whose hands lie funds, or who must ask the public for funds. This they will not do unless the out-patient department's real needs are properly kept before them.

This leads naturally to the subject of cost. Here our great difficulty has been to ascertain facts. The dispensaries maintained independently from hospitals can, as a rule, state their expenses in an annual report or in the returns made on our question blanks. In the cases of the out-patient departments, 71 out of 115 answering the question did not keep the cost of the out-patient department at all separate from that of the hospital, so that they could not state the out-patient cost; 5 stated the cost, but could not itemize it at all; 31 kept the out-patient cost separate to a certain extent, and were able to itemize it partly; and 8 institutions actually returned a carefully itemized account of the cost of the out-patient service separate from that of the hospital.

Of the 18 largest out-patient departments, all receiving 60,000 visits a year or more, only 3 rendered fully itemized cost statements. Under these circumstances any attempt to state an average figure for the cost of dispensary work must be undertaken with great caution. The average cost per visit of a patient seems to be the best unit to employ, but what is this cost? Among the 44 out-patient departments making a return, the stated cost varies from 6 cents to 68 cents per visit. Cost figures as absurdly low as 6 or 10 cents a visit simply mean that the expenses incurred by the out-patient department have not been charged to it. On the other hand, the highest costs are found chiefly among institutions of unusual standing, although several out-patient departments esteemed the country over for their medical work report costs of between 25 cents and 30 cents per visit. The facts that have been collected do not warrant us in making any statement as to what the average cost per visit of an out-patient department should be. It is apparently true that a cost per visit of less than 20 cents, or perhaps 25 cents, indicates either an undesirable standard of service or an inadequate system of cost accounting. On the other hand, a cost of 50

cents or 60 cents per visit cannot be said to be unjustifiably high.

The most important conclusion to be drawn is this: that if an out-patient department is worth maintaining, its cost is worth watching. If the work of out-patient departments is to be more important in the future than it has been in the past, proper cost accounting for out-patient departments is more important than it has been.

In the case of dispensaries which are independent of any hospital, we are not troubled by a system of accounting which charges too little to the dispensary work. All the expenses of the institution are in one basket, although the basket sometimes seems very small for the bulk it is supposed to carry.

Thirty dispensaries report the number of visits paid and the expenses, and the cost per visit, ascertained by division, varies from 10 cents to 76 cents.¹

How is it possible for one institution to get along with a cost per visit of 10 or 15 cents, while another institution, of approximately the same size, spends on the average visit of a patient three times as much? Part of the explanation lies in difference of equipment and other matters involving medical and administrative standards. Probably the chief reason for these low costs is overcrowding—too many patients are received in proportion to the facilities.²

The committee desires to bring prominently before the minds of the members of the association the fact that the cost per visit of out-patient work, while a useful unit, depends on two factors-the amount of money expended and the number of visits paid by patients. If too little money is spent, a proper standard of clinical work cannot be maintained. On the other hand, with a given plant and a given amount of medical service, if too many patients are admitted in proportion to these facilities, the standard of work must, again, fall below a proper level. Either the numbers should be limited in proportion to the facilities, or the facilities should be increased to enable larger numbers of patients to receive adequate medical care. Here, as elsewhere, we need standards, and, while the cost per visit is not an absolute standard, it is useful and well worth the little trouble or careful accounting which it requires.

Another important element in out-patient service is facilities for laboratory and x-ray work. The responses to the questions of the committee have been full on this point, and it is apparently encouraging to read the following figures. They show the percentage, out of about 160 institutions which answered the questions, in which certain laboratory facilities existed, according to the responses:

Facilities for urine examinations	89	percent
Facilities for blood counts	86	percent
Facilities for sputum examinations	84	percent
Facilities for bacteriological examination of		-
throat smears	83	percent
Facilities for bacteriological examination of		-
vaginal smears	85	percent
Facilities for Wassermann tests	67	percent
Facilities for x-rays	71	percent

¹Two institutions report higher costs—one of about 90 cents, the other of \$3.75 per visit. In both of these cases, however, the organizations are carrying on other activities, not directly connected with the dispensary work, but not separable according to the returns made.

The physicians on the medical staffs of these institutions were reported as having access to these facilities in a very large proportion of cases. The situation is not so encouraging, however, when the question is asked as to the extent to which these facilities are made use of. Questions on this point were included in our investigation last year. Seventy-five institutions-and these included very representative ones-answered the question, "Is the examination of urine a clinical routine in your medical clinics?" Forty-four percent said that in their medical clinics urine was examined "sometimes;" 35 percent answered that it was not done at all, and only 21 percent said that it was a routine. The proportion in which these laboratory facilities are made use of are smaller in the cases of the other tests, the urine test being the most favorable.

Thus, in the matter of laboratory service, it would appear from the returns that a large majority of the institutions report that, while they have facilities for laboratory examinations, these facilities are not taken advantage of. Once more it is a question of clinical standards. Are we to be satisfied in out-patient service with medical practice which has a laboratory within its reach, but does not use it?

It may fairly be answered that omission of the use of the laboratory may be due to the practical inability of the institution to furnish sufficient routine assistants to do all the work which the medical men would like to call for. This is undoubtedly true in a great many cases. An accepted standard, below which out-patient service cannot fall without incurring general criticism, will be the best possible backing, both for medical men and for administrators, in securing the facilities which many out-patient clinics obviously need.

The reports from the dispensaries and out-patient departments in the matter of certain other facilities may be mentioned. Sixty-eight out of 149 institutions had social service, 68 reported no social service departments, and 13 did not answer this question. In 30 out of 68 affirmative answers the social service department included only one worker. A real beginning has been made here during recent years, as out of 17 out-patient departments and dispensaries of the larger size (60,000 visits or more a year) only 1 reported no social service department. In 4 of these cases, however, the "department" meant only one worker, struggling with the social problems of 15,000 or 20,000 patients annually.

Keeping records of the number of patients and visits is an elementary, but important, matter. Fifteen percent of the 160 odd institutions answering the questionnaire did not report either the number of patients or the number of visits, or both, the reason in the majority of cases being that their records did not show the absent figure.

It is further evident that there is no agreement as to the way of keeping these statistics. Some institutions report new patients and old patients, but not the total of visits. This is, however, easily obtained by taking together new and old patients. Whether patients are really new patients, or whether a patient who is treated in three different clinics counts as three, can rarely be told from the returns in our questionnaire or from the annual reports of the institutions. Uniformity in this very simple matter would undoubtedly be of assistance.

One of the questions sent out by the committee was, "Are you satisfied with the results of medical treatment afforded patients in your dispensary?" Eighty-three, or 52 percent, out of 163 institutions answered that they were satisfied; 18, or 11 percent, said "fairly satisfied;"

dispensary work, but not separable according to the returns made.

2We might consider two large dispensaries—one of which reports a cost per visit of 26 cents, the other of 15 cents. Both these dispensaries, however, give salaries to their medical staff, so they cannot be compared with the majority of dispensaries which do not pay medical salaries. Deducting the amount paid in medical salaries, the cost per visit of these two institutions reduces, respectively, to 18 cents and 7 cents, these being among the very largest dispensaries, separate from hospitals, which exist in the United States. Further comparison shows that the difference between 18 cents and 7 cents is largely due to the fact that one of the institutions has a social service department and the other has not, the department adding several thousand dollars annually to the salary budget. Other detailed comparisons could be made.

32, or 19 percent, did not answer the question; and 27, or

16 percent, said they were not satisfied.

The supplementary question was then asked, "What percent of your patients paid only one visit to a clinic and did not return, although they apparently needed more treatment?" Only 21 institutions answered this question at all, the majority said that they did not know, and a considerable proportion ignored the question entirely. It is interesting to find that, of the 21 responses to this question, 16 were from institutions reporting that they were satisfied with the results of the medical treatment afforded patients. The percentage of patients paying only one visit, although they needed to come back, is 10 percent or less in all but two of these 16 cases.

The committee is compelled to conclude from these responses either that the question was not understood, or that only hasty estimates were made of the percentage of patients paying only one visit. There is no doubt in our minds that the proportion of patients who visit outpatient clinics once and do not return for treatment, even though further treatment is needed, is usually large, and is one of the most serious elements of dispensary waste or inefficiency. Wherever this percentage has actually been tested, it has been found to be much larger than 10 percent. Actual tests have been made in a number of clinics-at the Massachusetts General Hospital, the Johns Hopkins Hospital, the Lakeside Hospital, the Governeur Hospital Out-patient Department, the Maverick Dispensary, the Boston Dispensary, and doubtless elsewhereand the percentages of patients paying one visit have varied in different institutions and different clinics from 30 percent to 75 percent. It was especially interesting to remark that of the 27 institutions which stated that they were not satisfied with their dispensary work, 5 gave an estimate of the proportion of patients paying only one visit, and 3 out of the 5 estimated it as more than 10 percent.

We believe that it would be profitable for a number of institutions to investigate the proportion of patients paying only one visit. The percentage would, of course, vary widely in different medical and surgical clinics in the same institution, according to the nature of the different diseases treated, but an examination of these percentages, and consideration of what they indicate, would be found

of much value.

On the whole, we believe that the large proportion of answers expressing satisfaction with the results of current work indicate that the problems of the work itself have not been fully thought out. Judgment of results attained cannot be expected to be accurate unless we have reasonably definite standards of service.

In surveying the present-day field of dispensary work, the contrast between different types of out-patient institutions is worthy of much consideration. There is obviously a very wide difference between an out-patient department of a hospital in a town of 15,000 inhabitants, receiving 500 or 600 patients a year, and an out-patient department in a large city attached to a hospital of 500 beds, and receiving annually 100,000 visits from 25,000 patients or so.

The dispensary maintained separately from any hospital presents problems differing in some degree from those of the out-patient department; and, again, a dispensary for special diseases (orthopedic, eye, ear, gynecological, tubercular) has problems of equipment and administration peculiar to itself. The difference between types of dispensaries is just as wide, both qualitatively and quantitatively, as between types of hospitals. Cer-

tain general problems arise in all, and certain general principles or standards are doubtless applicable to all, but each type needs to be studied also from closer range. This your committee has not been able to do during the past year. The means at the command of this committee has not enabled it to undertake detailed study. There is no doubt that the smaller dispensaries and out-patient departments in communities of moderate size are growing in number and importance, and will develop rapidly. The dispensaries for various special diseases will also. This year it has not been practicable to go further than to outline certain general recommendations which we think should apply as minimum standards to most dispensaries, and certainly to all the larger institutions:

- 1. Every dispensary should have a central authority in control, to which all clinical departments should be responsible in administrative matters. The medical men in the several departments should have responsibility for the diagnosis and treatment of their individual patients.
- 2. Every dispensary should employ at least one salaried person, on full time, for the clerical and statistical work of the institution. This person may well be called "registrar."
- 3. Statistics.—Every dispensary should record the following statistics: New patients (for each clinical department); total visits paid by new and old patients together, for each clinical department and for the dispensary as a whole; the new patients should be divided into males and females, and of these the number of children should be noted; the dispensary should state the age below which patients are considered children, as this age varies in different institutions. Classifying patients according to "white" or "colored" is not considered important by the committee, except in certain portions of the country, where conditions may make this worth while.
- 4. Every dispensary should have a card index of its patients, filed alphabetically, each card containing at least name, address, and age as identifying information. This card index should be for all clinics together, and should be kept in a central place, preferably in conjunction with the admission desk.
- 5. Every dispensary should have an isolation room or booth, in connection with the admission hall, for the immediate temporary isolation of patients suspected of having contagious disease.
- 6. Every dispensary, in its clinics for medical diseases, should have a general physical examination for all patients as part of its routine.
- 7. The members of the medical staff of a dispensary should have laboratory facilities for at least the following: urine tests, blood counts, the simpler bacteriological determinations—especially sputum examinations and throat cultures—Wassermann tests.
- 8. Facilities for cystoscopic work should be provided in genitourinary and gynecological clinics.
 - 9. Facilities for x-ray work are essential.
- 10. At all examinations of females, when exposure of the body is necessary, a woman attendant should be in the clinic.
- 11. Every dispensary should have some organized social service work.
- 12. Every hospital maintaining an out-patient department should keep the accounts of the out-patient department separate, so that its cost can be accurately stated.
- 13. Fee system.—A system of fees paid by patients at their various visits, for medicines and for special treatments, is desirable, not only as a financial measure, but

because of its reaction on the patients themselves and because of its stimulus to good administration.

14. Every dispensary should have, in some central place, a registry book in which the members of the medical staff are to record, at each session of their clinics, their names, the hour of their arrival, and the hour of their departure.

It is obvious that these recommendations do not touch a number of very important topics in dispensary work. To some institutions they will appear elementary, but the facts in the hands of the committee show that in most institutions they are needed.

A few special topics of particular interest to those concerned with large dispensaries have been selected by the members of this committee for the reports which will be printed as appendices to this general report. The members of the committee signing these reports take the individual responsibility therefor. The topics of these reports are: Medical Organization of an Out-patient Department, Dr. Howland; Medical Teaching in a Dispensary, Dr. Seem; Construction, Dr. Neally; Social Service, Admission, and Fee Systems, Dr. Warner; Forms and Suggestions for Keeping Records of Attendance at Dispensaries and for Cost Accounting, Mr. Davis.

It may be said that the committee has nowhere referred to a topic which has probably been more discussed than any other-namely, the "abuse" of dispensaries by "persons who are able to pay private physicians." The committee is aware that this subject is a real issue in some dispensaries and in some communities. It is our feeling, however, that so much discussion has taken place on the subject of dispensary "abuse," and so little on the subject of dispensary efficiency, that it is well at this time to even up the balance. Doubtless the subject of dispensary "abuse" will come up among other topics at the Round Table, which is to be devoted to out-patient work, but we have felt it best to confine this report entirely to the positive side of dispensary administration, and to omit that vexed and magnified question of whom and how the dispensary should eliminate.

All the members of this committee are conscious that the field of dispensary work is a large one, and that but small beginnings have yet been made. What is the next step? More detailed and intensive study. The different types of institutions, large and small, connected with hospitals and separate from hospitals, treating one class or another class of diseases, must be studied in some measure separately, and information as to methods and standards made accessible in detail to dispensary physicians and managers. We think that, in view of the rapid growth of dispensaries and their general state of loose and unstandardized administration, continued study on the part of the American Hospital Association would be of service to its members. We therefore propose the following:

- 1. That the Committee on Out-patient Work be continued and authorized to proceed with further study of dispensary work, and to secure such cooperation and funds as may be necessary to carry on its investigations.
- 2. That the committee be enlarged to seven members instead of five, as at present.
- 3. That an appropriation of \$100 be made by the association to meet the ordinary expenses of the committee for meetings, postage, etc.

There can be little doubt that the advance of preventive medicine, and its practical application by Federal, state, and municipal health bodies, will proceed rapidly during the coming years, and that this is bound to modify profoundly the conditions of medical service, both in private practice and in medical institutions. Workingmen's compensation, sickness insurance, preventive work such as that begun by the Life Extension Institute, the employment of expert medical service by large industrial establishments for the benefit of their employees—these are some of the other factors at work in the same direction. The out-patient clinic is likely to play an important part in this development, not only in the treatment of the sick, but in the growing applications of preventive medicine. It is clearly necessary that out-patient service be improved and put generally on a high medical and administrative standard. It is clearly the responsibility of such a body as the American Hospital Association to take an active part in this improvement.

In his address as president of the American Medical Association, at the Atlantic City meeting last June, Dr. Victor C. Vaughan said:

"Preventive medicine measures its successes by the number of lives saved, and the 20,000 a year which have been saved from death by tuberculosis during the past ten years is no small triumph. In the last century the average of human life has been increased fifteen years, and this increase could be duplicated in the next twenty years if the facts we now possess were effectively employed.

It must be admitted that, in the crusade for the restriction of tuberculosis, many physicians have manifested but little interest.

With advancing knowledge among the masses, these professional fossils will be correctly labeled and properly shelved in the local museums of antiquities."

Let it not be said that the physicians and the administrators of medical institutions are to be behindhand in developing to proper standards a section of their work which is growing with remarkable rapidity in response to an apparently real and augmenting public demand.

SUMMARY.

- 1. Dispensary work has developed very rapidly in the United States during recent years, and has now reached so large a scale as to be of general importance. It has spread widely over the country and into more and more varied fields of medical and of public health service.
- 2. There is an indication that this development will continue.
- It is becoming apparent that the out-patient department is not only a feeder for hospital wards, but a positive force in contributing to the efficiency and economy of hospital service.
- 4. The growth in number and size of dispensaries and out-patient departments has taken place without a corresponding general advance in administration or standards of service.
- 5. The physicians and administrators of most dispensaries and hospitals have given little real attention to the out-patient service. A relatively small number have thus far waked up to the medical and social importance of out-patient work, and have undertaken seriously to place it on a proper standard.
- Those who have not yet waked up to the importance of out-patient service need to be aroused—those who have waked up need to be provided with ammunition.
- 7. The ammunition consists of (a) facts and (b) funds. Improved standards of out-patient service must wait on facts showing present conditions in detail; and then, through correspondence, reports, and publications, different institutions, in all sections of the country, may mutually profit by exchange of experience.

Funds will wait on facts. The greatest obstacle felt by those who are now endeavoring to advance out-patient service is the lack of accepted standards, which makes it possible for conditions to prevail in out-patient clinics which would not be tolerated in other branches of medical work. Standards of service, based on facts showing what is best in existing services, will be the effective lever with which to secure funds for needed improvements.

ARTIFICIAL ILLUMINATION IN HOSPITALS.

Discussion of Mr. Meyer J. Sturm's Paper on Artificial Illumination in Hospitals, as Read Before the American Hospital Association at St. Paul, Minn., August 28, 1914.

BY OLIVER H. BARTINE, SUPERINTENDENT NEW YORK SOCIETY FOR THE RELIEF OF THE RUPTURED AND CRIPPLED.

Mr. Sturm is to be congratulated on the care and thoroughness with which the subject of Artificial Illumination in Hospitals¹ is presented in his paper. The paper gives evidence of careful study and broad experience, and offers ample food for thought and a basis for a broad discussion.

The author well points out the very great difference of opinion and practice among those interested in hospital work, applied not only to other branches of the construction and equipment of hospitals, but particularly to the matter of illumination and especially the matter of fix-

tures used for this purpose.

While sympathizing with the author's belief in the desirability of standardization of hospital illumination equipment, the realization of such a hope would seem to be remote. Hospitals are built for a variety of purposes, demanding special treatment for each, as the patient demands individual attention and special treatment. The various superintendents, doctors, visiting physicians, trustees, donors, architects, and engineers interested in hospital construction have individual ideas which are imprinted on the equipment of the hospital. These two facts inevitably work together to produce individual treatment in every hospital. It is very doubtful if an agreement of any standard form of lighting equipment could be reached.

Most hospital buildings are built with a limited amount of money, which makes necessary a sacrificing of the ideal to that attainable.

A great deal can, however, be done toward unifying the practices existing in hospital illumination and toward raising the standard of equipment used, and also toward eliminating much of the undesirable equipment which has been used, especially that which is particularly of a commercial character, with little regard to the specific needs of individual cases. In this connection the author's point that the architect should be given a voice in the councils of those endeavoring to approach a standard practice is admirably taken. This, however, should include the consulting engineers, particularly those who make a specialty of such work.

The paper under discussion goes quite extensively into the problems of illumination, brightness, ophthalmology, physiology, psychology, architecture, and engineering as applied to this problem. The information given in connection with these problems will prove of interest and help to all those engaged in this work.

Especially the physiological and psychological problems relating to illumination are but little understood at this time. A thorough solution and a full understanding of these problems will require a long and thorough investigation, based on a large number of hospitals and patients as subjects, the results of such investigations to be carefully recorded, correlated, and analyzed.

¹Published in the September, 1914, issue of THE MODERN HOSPITAL.

It may be true that the average hospital lighting fixture in use up to the present time has been of a type most trying to the eyesight and at a time in the experience of the patient when the greatest care should be used in this respect. This is probably largely due to the failure on the part of the architect to appreciate that the requirements of hospital lighting are essentially different from those of other buildings. An intensive study of the purposes and requirements of hospital lighting is essential to the securing of the best results. As pointed out, the development of hospital construction and equipment has been extremely rapid in recent years, and the development of the lighting equipment to meet the special needs of the hospital has lagged behind. Both efficiency and service have suffered in this respect.

The art of illuminating engineering has advanced very rapidly in recent years, and doubtless will continue to advance, with the result that new electric lamps of increased efficiency will be available, new designs of fixtures will be made to meet new ideas and conditions, the opinions of those connected with the hospitals will be modified, and all of these facts will result in a complete change of illuminating ideals, thus making any standard now adopted obsolete in a very short time.

In connection with the design of the illumination equipment of the hospital building, I would urge that there should be more cooperation between the designing engineer, architect, and superintendent. Indeed, I would go further, and urge that the staff of the hospital, and even the principal members of the visiting staff, should be consulted, as all of these men share in the responsibility or use of the hospital. As a matter of fact, in many cases no one other than the architect is allowed to exercise judgment in this matter, and too often the results aimed at are esthetic rather than practical. I would even advocate that the operating engineer of the hospital be a member of the council which decides these problems, as many of these men have been long connected with hospitals and are intimately in touch with the difficulties experienced in maintaining and operating the service.

It is not an uncommon thing to find a new hospital in connection with which there have been no conferences on the subject of illumination between the architect or engineer and the hospital authorities, the idea apparently being that the architects or engineers are engaged as experts and should know just what would best meet the conditions. Such a plan waves aside entirely the immense amount of valuable experience and information which the superintendents, doctors, and operating engineers have accumulated in the conduct of other hospital buildings.

The author's argument in favor of uniformity of degree of brightness is well taken. There must, however, conjointly be considered the problem of efficiency of current consumption and cost of installation as limiting factors, but not, as is sometimes the case, to the extent that the cost is allowed to weigh against the efficiency of the plant and the comfort and welfare of the patient.

As the author well points out, the condition of the hospital patient is such that he should be surrounded by the best conditions possible, and the items of expense and efficiency should not be allowed to weigh against the comfort and benefit to the patient.

If the author is arguing for the day illumination of large wards by means of windows placed on one side only, I would caution that such a plan would interfere seriously with natural ventilation. It is granted that in a large ward the patients are subjected to a trying condition in

that practically every patient must face a window. On the other hand, these windows are designed for the purpose of ventilation as well as light. I would suggest that curtains intelligently used would go far toward relieving this difficulty without interfering with the ventilation.

The data relating to calculation of like requirements in various departments of a hospital are well stated. I would, however, suggest that the 3-foot candles, instead of 4½-foot, are sufficient for direct lighting.

Type C nitrogen lamps, which in small sizes of foreign make heretofore have not been standardized, are now standardized by the General Electric Company in sizes from and including 60 watts to 2,000 watts, with overall dimensions and light centers, making them adaptable for scientifically designed reflectors. The nitrogen filled mazda lamps are about twice as efficient as Type B lamps, due to their actinic rays containing the necessary blue rays, which make for the nearest approach to daylight, doing away with artificially colored glass reflectors. This has been found necessary with tungsten lamps, and, when type C mazda lamps are used in conjunction with light walls and ceiling, an illumination nearest to daylight is produced, thereby making lighting of hospitals ideal. The kitchen and service rooms require more lights than corridors, toilets, and store rooms.

In addition to the plug outlets in the hospital, there should be provided waterproof plug outlets for lights, heating pads, signals, etc., on piazzas and roofs, this being especially important in view of the liberal use of outdoor treatment advocated at this time. I would suggest that the plug outlets of the wards and patients' rooms should be placed at the height of approximately 32 inches above the floor, as this is found to be much more convenient than the former method of placing these plug outlets in the baseboard.

There should be occasional bracket lights on the wall over the bed in addition to the wall plugs, as it is often a source of delay and annoyance to the visiting doctor to have to wait for the bringing and connecting of portable lights, especially when the bracket light will serve every necessary purpose for a brief examination.

In addition to the plug outlets in the wards, there should be similar outlets in the quiet rooms, operating rooms, examining rooms, and electrotherapy rooms, and also in laundry, sewing rooms, offices, etc.

Mr. Sturm's paper points out the adopted plan of a change in the color treatment of the operating room. The writer agrees in his suggestion that the walls should be treated in light tan color, with straw-color ceiling, and also in his suggestion that the rooms and wards should be treated with light-green on wall and straw-color on ceiling.

There is manifestly a radical change of opinion as to the color treatment of the operating room. The tendency to get away from the glaring white walls is marked. This will have its effect on the lighting problem of this room. I question whether the red tile is not also tiring to the eye, and I suggest that possibly a gray tile might be better. It must not be forgotten that this tile must be non-absorbent, so that the floor may be easily and thoroughly cleaned.

Suggestions are offered in the paper for the control of the room lighting by means of the use of the two-point and three-point switches, by means of which the first push on the button will turn on one light, which may be of small wattage for night use, the second push turning on the two remaining lights, the third push turning on again the first light, while the fourth push turns off all lights.

The use of such switches is to be commended, but the use of the momentary contact switches suggested for corridors, etc., seems an unnecessary expense and complication, even for the operating room.

The reflector on the indirect or semi-indirect lighting fixture, as now constructed, is a troublesome dirt collector. It is difficult to clean and expensive to renew in case of breakage. The problem of designing a fixture free from these difficulties needs careful study, as the indirect or semi-indirect method of lighting has manifest advantages which will lead to its retention.

Referring again to the subject of operating room lighting, I feel that there should be no permanent ceiling fixture in the operating room. It is a dirt collector and distributor, while it increases and concentrates heat over the operating table. I would suggest, as a method of lighting the operating room, the placing of a number of lights in metal cases built into recesses in the wall near the ceiling, with a similar light in a recess directly over the operating table, and one at each side of the room near the floor to light the side of the table when specially required.

The cases holding these lights would have suitably shaped mirrored reflectors, with cover plates set flush with the surface of the wall and ceiling. These cover plates would consist of a white enameled ventilating metal frame, holding a glass screen, the reflector and screen to be so designed as to place the light directly on the operating table. The covers would be hinged at the top to facilitate the renewal of lamps and cleaning. These lights would be controlled by a single or individual switch, or both, and could be so placed that the light would come from a number of sources in such a manner that the operator or attendants at the table could not interfere with the light on the table, or at least not to an extent which would diminish the light undesirably or cast shadow. Supplementing this, I would propose that portable lamps be used when local illumination is required, these to be connected to waterproof floor plugs.

The selection of an architect to build a hospital or some part of one comes up every little while. This question is an important one, and hospital boards and superintendents ought to do some real thinking about it. The best hospital architects in this country, and they are few in number, decline to be responsible for the interior arrangements of new hospitals until the plans have been passed on by a competent hospital administrator. The architect who is willing to shoulder the whole affair without consultation with someone who knows what the building is to be used for, and how, belongs to the class of "fools who rush in where angels fear to tread." There is no architect competent to design a hospital. It is the business of hospital managers to design hospitals; it is the business of the architects to build what is laid out. The sooner architects take this view of their work, and the sooner hospital people realize the functions of the architect and their own responsibilities, the sooner we will have well-planned, conveniently arranged institutions, capable of economical and facile administration.

The Minnesota State Board of Control has recently made a report of the work of the State Hospital for Indigent, Crippled, and Deformed Children, of which Minnesota is justly very proud. The board states that nearly 1,000 children have been treated in the institution since it opened in 1907. There have been 499 absolute cures and 248 partial cures, and only 72 deaths. Dr. A. J. Gillette, of St. Paul, founded the institution and has been at its head since its foundation.

THE PRIVATE HOSPITAL AS A PUBLIC INTEREST.1

Publicity as to What the Hospital Is Doing Is the Best Method of Winning Friends and Support—Every Social and Benevolent Agency Should Be Cultivated.

BY W. T. GRAHAM, SUPERINTENDENT IOWA METHODIST HOSPITAL, DES MOINES, IOWA.

The increasing hold of the hospital idea on the minds of the public makes the successful presentation of a hospital enterprise much easier today than a decade since, while the multiplicity of the calls on the purse for civic or social betterment makes it more necessary that the appeal be clean-cut and convincing.

Exciting public interest is largely a matter of education where a new hospital is in view. Where an established hospital seeks funds for expansion, it becomes a

matter of giving publicity to the project.

A prominent advertising specialist recently said: "A successful advertisement arrests attention, keeps attention to the end, and is convincing. Furthermore, a successful advertiser must have something worth the price asked. You cannot boost a bad thing by good advertising." Let us see how this applies to the hospital: support for a hospital enterprise requires good advertising—ethical, dignified, tactful, convincing expressions of policy; record of service and illustrations of its public utility will secure sustained interest.

Let me suggest some of the motives influencing gifts to hospital work as indicating the nature of the effort

necessary to secure attention.

Let us assume that underlying all motives is that of the Good Samaritan—true benevolence—or the conception of responsibility to God for the furtherance of His kingdom on earth. This is undoubtedly the most common and admirable of all motives. However, there are those who seem to be influenced only by self-interest—the expectation of gain, direct or indirect—the love of personal prominence in a desirable association or notable movement. A hospital may favorably influence the value of real estate in a neighborhood, or it may mean a demand for supplies that would profit the prospective giver.

Pride in some denomination, some fraternal order, or some peculiar professional practice is often appealed to successfully; civic pride that a city should have hospital accommodations equaling those of some other ambitious rival; or the intelligent appreciation of the true value of the hospital to the community; or the motive may be the

desire to erect a memorial to some loved name.

The raising of funds for a well-discerned public necessity, ably managed, needing support for the enlargement of its work, is easier now than securing assistance to duplicate efficient existing hospitals. This is one of the significant indications of the value of the effort of hospital workers to educate the public to a better understanding of sane hospital establishment.

The sympathy of the public is large; it is often incredulous, and suspicious of the motives of those seeking funds, but is responsive to the proper touch. Nothing appeals to this emotion more strongly than the exhibition of sympathetic service to the needy. Hence it is natural that, as an appeal, nothing should be more used or abused. So people are beginning to look more closely into appeals made from that source. They are giving as never before, and inquiring in the same way as to the uses made of funds subscribed to ameliorate the condition of the unfortunate.

funds subscribed to ameliorate the condition of the unfortunate.

1Read at the sixteenth annual conference of the American Hospital Association, St. Paul, August 25-28, 1914.

Needed funds will go with greater facility to the hospital of efficient service, and in the public mind this means more than the giving of a dose of medicine on time, or an operation at an opportune moment. Technical skill will count for much with the trained worker, but the public in general judge hospital care by what it can see and understand. Intelligent sympathy is the keynote of success in hospital work. The feeling of security that a patient's welfare is being safeguarded at all times will do more to enhance the reputation of a hospital than any one single agent. The reputation for courtesy is one of the best assets a hospital can acquire—courtesy and tact will sound its name farther than any subtle appeal.

The successful hospital is accommodating—willing to pause long enough to consider reasonable requests, and to grant them if they do not interfere with some greater right. Kindness never appears better than when clothed with firmness, and kindness or consideration should never mean a departure from a well-digested plan of practice.

Frankness in dealing with the public will do much to promote confidence. The public must be taught to feel instinctively that statements represent exact conditions—that there is no juggling with figures presented.

Probity within the institution must be unquestioned—that funds given for specific purposes will not be diverted to some other use, however laudable. The public must have confidence in the wisdom of the managers—that enterprise and ambition will be governed by conservative consideration in every proposal involving considerable expenditure or exchange of policy.

Impartial consideration in the relation to patients, physicians, friends, and nurses will do much to cultivate friendly interest. Nothing furnishes better food for the vicious than the exhibition of favoritism to others. Recognition of ability, of kindliness of purpose, of interest, is laudable, but the distribution of favor must be founded on better premises than these—according to their needs as our ability lies, without preference or precedence.

These things, however well developed, will not take the place of technical efficiency. They will not apologize for blunders in the reception of patients, omissions in expected attention, or lack of compliance with orders. The business conduct of the hospital is important to that large class of prospective givers who have amassed a competency by the practice of economy and business forethought. The hospital should welcome friendly inquiry as to its methods.

Business success comes from a close study and comparison of resources, collections, and expenditures.

Are room rentals, board of patients' visitors, and special nurses, medicines, dressings, skiagraphs, massage, medical and electrical baths, anesthetics, barbering, telephones, and fans, bearing their proper share of the burden? Are some patients bearing part of the cost of service commonly rendered to others, or does the cost in each case represent the financial obligation of the patient? Are collections adequately looked after? Be sure the hospital service is good and then insist on payment for it, even through a process at law. Notes should be secured for unpaid balances before a patient leaves—it has many advantages.

Do expenditures represent equal returns? Are purchases made with the same intelligent forethought and knowledge of market conditions used by the prosperous retail merchant? Is the work planned to secure the best results from the smallest amount of help, and proper consideration given to the money value of the careful, intelligent, staid employees?

Is a proper check and inspection made of goods received, supplies issued, and materials discarded? Are issues based on careful estimates of needs, comparisons of use, and proper supervisions of methods?

Is the domestic work planned by schedule that each one knows the time and scope of his work? Is the mechanical department subject to the same care, scrutiny, and economical equipment to be found in similar successful commercial plants?

Are wastes inspected, recorded, and utilized? These things must be answered in a business manner to secure business men's approval.

Do the board of managers represent influential factors in the community? The board of managers must have the implicit confidence of the people. They must be men of high standing in the community, with high ideals—men who have made a success in life without making a host of enemies. The board must be a source of strength by the mere association of their names. They must be interested, willing, and able to give a share of their time to the enterprise. They must have friends who trust them, whom they can and will influence to give largely. The board must represent enthusiasm, conservatism, and ability. They should not be selected for short appointments. "Experience teaches that knowledge is power" has a new emphasis in this connection.

The public can always be counted on to give a ready ear to statements concerning the cost, 'value, and amount of free service rendered the necessitous poor. This work cannot be carried on by funds furnished by receipts from patients without injustice to paying patients or to hospital donors. It should be generally known that the only requisite for admission to free care is inability to pay for the service to be rendered and pathological admissibility. There is, of course, the usual tendency of some applicants to confuse inability with disinclination. The exclusion of impostors and making patients pay who are able are a passport to public favor. Outside sources of information and careful investigation should be utilized in determining the fitness of each applicant; but, once in, let there be no grudging ministration. Let sympathy and skill attend in the ward as in the private room. The inclusion of any part of service rendered at schedule rates, though less than per capita cost, in statements of free service is misleading and unfair. Let the public know the work done for less than per capita cost, and-who pays for it. Willingness to provide for the free care of individual cases, or the support of such work as a whole, for a definite period is not hard to find. Intimate acquaintance with pitiful cases cared for, visiting properly safeguarded, appreciation of gifts-valuable or useless, casual exhibition of some of the wonders of modern hospital equipment, should be mentioned.

It seems hardly necessary to mention here the obvious vital importance of the interest and cooperation of the medical men. Attach them with bonds of steel, but equive their enthusiasm and expectation, that the project does not receive blows aimed at someone behind. Let the staff be selected from the representative men, in each branch, of such prominence that their names will be all the apology needed for their appointment. Give early recognition to the ability of the rising physician or surgeon, and attach him to the hospital in some capacity, thus providing against mutability in the strength of the staff by the ravages of time. There should be confidence in the invariable, ethical, and impartial conduct of the hospital's relation to its physicians. There are always men who will need more time and attention than others, but it

should be of the same quality throughout. Let the medical men know that their cooperation is appreciated. value of the hospital connection as an important factor in the community, and the conviction that the hospital and the physician represent the best combination for recovery, is a fact of growing significance. Let conservative consideration and deliberate action be the answer to impatient request, that the resulting equipment may be of generally recognized utility with the absence of expensive discarded experiments. The hospital without adequate funds cannot afford to experiment, but no hospital can afford to be without necessary equipment. Imbue physicians with the value of the hospital to the profession at large; its tendency to improve the general medical atmosphere, to elevate the conception of the physicians' responsibility to the public; the stimulation of medical attention to the unfortunate, and a study of social conditions.

Show the public the strength of the hospital as an educational factor in the community in the dissemination of useful knowledge concerning the nature and prevention of disease, that the nurses are filled with the hospital spirit in extending this knowledge wherever they go, that patients become conversant with better methods of care, that visitors get a new understanding of the value of preventive efforts, that women learn of better domestic methods and men a better appreciation of their worth.

Establish cordial relations with the various charitable organizations. Make use of their facilities in investigations, and accord them a share of favorable consideration in handling their problem.

Let the practical-minded be shown, as a public asset, the value of disabled men and women restored to the ranks of workers, with the consequent relief of the burden of dependent children or helpless adults; of the value of the crippled child restored to health and promise; the lessened burden of public care for chronic invalids, because of early recognition and attention; and the decreasing number of defective progeny by hospital precautions.

In the absence of city and county hospitals, let the public know the economy of aiding the hospital, in caring for public charges, as a lessening of public expense, but—"beware the Trojans bearing gifts." Such patients should be admitted under general rules, and per capita cost should be insisted on as the minimum remuneration.

In these days of social survey, the approbation of the representative commercial body or board of trade is a most important aid in establishing the need of a hospital enterprise.

The employment of efficient permanent field representatives is of proven worth. There is much in the regularity of presentation—in keeping the hospital on the minds of the people. Prominence in reflection is what brings sales to well-advertised articles and money bequests to hospitals. A field agent has the time to favorably influence large givers; he reaches also that large army of small givers that total such immense gifts to charity each year. There is an army of modest self-sacrificing givers, without whom our hospitals would be diminished by over one-third. The importance of cultivating this field cannot be exaggerated. No hand too small, no tongue too weak, to help. Hospitals are built by large gifts, but sustained by small.

In cultivating interest we must distinguish between attracting attention and securing conviction as to the necessity and amount of funds sought. I question the ultimate value of sensational methods in attracting attention, unless the serious character of the institution be so well understood that it cannot suffer from any reflection of suggested flippancy. The efforts in securing permanency of

interest seem more and more valuable—the keeping of the institution before the public by dignified, tactful, regular

A model hospital bed room, with a nurse in attendance, at a fair or exposition, and abundant literature, that will cause people to think, will be worth more in the long run than attempted force. A window in a prominent location, fitted up as a small babies' ward, with trenchant, pointed, and easily read statements; a model emergency ward in or near a railroad center, illustrations of first aid in common disabilities, may furnish novel features on a program. Lectures and presentations at women's clubs, fraternal associations, churches, boards of trade, industrial plants, picnics, or conventions, need only to be mentioned as samples of activity.

Newspapers sometimes seek information against the recognized medical ethics of the sacredness of the body or personal affairs; but if a readiness is shown to furnish them with items of general public interest, they will be found to be friends of great value. Notices of meetings, plans, social and professional gatherings, movements of officers, unusual or pitiful instances of hospital relief, will

be found to be always welcome to their pages.

Harmonious cooperation with boards of health, lining up shoulder to shoulder with their efforts to better conditions, is at once the duty and the pleasure of the properly

administered hospital.

In this brief sketch I have endeavored to show some of the ways a private hospital may become a public interest. I have endeavored to show how the hospital itself can be an advertisement to arrest attention, to keep attention, to convince, and to be worth the price asked.

GREEN BAY HAS NEW HOSPITAL.

Sisters of St. Mary's at Wisconsin City Have Opened New Modern Building-Now Have 150 Beds.

The \$25,000 addition recently completed for St. Mary's Hospital, Green Bay, Wis., increases the capacity of the institution to 150 patients. The new building is 120 feet long, 42 feet wide, and four stories high. It is connected with the old building by a fireproof wall and metallic doors with wire glass, the object being to prevent the spread of fire from the old building to the new, which, with this precaution, is fireproof.

The stairways in the addition are constructed of steel Terrazzo floors are laid throughout the and concrete. structure, and the toilets are of marble. The lavatories are finished in Italian marble. Each toilet is equipped with shower and needle bath. A public toilet and bath is

provided on each floor.

Suites of rooms are a feature of the hospital, and the suites are provided with private baths and toilets. All beds are three-quarter width and have hair mattresses. The rooms are finished in mahogany, Circassian walnut, or oak, and the furniture corresponds with the woodwork. Each room has a telephone and electric fan connection, and is provided with forced air ventilation. The patients have individual trays and dishes. No bells are rung in the new addition. Signals are conveyed to the desk of the supervising sister on each floor of the central building. Here the signal is registered upon a call board having a buzzer attachment. There is a fire hose on each floor to use in case fire should start in any part. An automatic telephone system has been installed. There are bubblers on each floor, with an attachment which provides ice-cold water for patients.

The operating room is 29x17 feet, and the walls are of

white glass. Forced draft ventilation keeps the air pure and the room free from odors of ether. The ceiling is twenty-eight feet from the floor, and light comes through large windows in the ceiling. The indirect system of electric lighting is employed.

The laundry and heating plant buildings are separated from the hospital to eliminate the danger of fire from this source. The heating system installed requires the water to be heated by steam in a large drum before it

passes into the radiators.

Admission of Patients to the Hospital.

A good many hospital people have of late been finding it difficult to satisfy the medical staff in the admission of patients to the hospital. They say the doctors complain that the cases are not carefully enough distributed, and do not find their way to the proper location or the proper service in the hospital. This is probably due to the fact that the burden of making differential diagnosis is placed on the admission officer. Where there is a very large number of admissions, and there is a thoroughly competent medical man in charge, the probabilities are that he is too busy to make more than a cursory examination, and then only for the purpose of assigning the patient to the proper place in the hospital. The admission room is no place for a fine diagnosis; indeed, one of the very best admission officers in this country is a nonmedical woman who was a public welfare worker before she was given charge of the assignment desk in one of the largest and best dispensaries in the United States. Almost her whole technic is embodied in the question, "What seem to be the matter; what do you complain of; where are you sick?" The answer to this question, in nine cases out of ten, is sufficient to justify the assignment of the patient. In Bellevue not long ago less than 50 percent of the cases that went to autopsy were diagnosed correctly, and presumably these cases had all the advantages of the complete facilities of a great hospital for diagnosis. How, then, are we to expect much in a snapshot diagnosis in the admission rooms, and what good purpose would be served by having the admission officer spend a lot of time in the archaic routine of physical examination? The purpose of an admission room is to find out, first, whether the patient needs the hospital, or should be treated in the out-patient department or back in his own home; second, in what part of the hospital the patient probably belongs. The upstairs diagnosis, with all of the scientific aids of the laboratory and the x-ray, and the trained eye, ear, and finger of highly specialized men, coupled with a period of observation sufficiently long to bring results, ought to do the rest.

The Ann Arbor (Mich.) News thinks the new home of St. Joseph's Sanitarium at Ann Arbor is almost attractive enough to tempt one to undergo an operation, whether he needs it or not. The building contains 14 private rooms with bath, 65 additional private rooms, and three wards of double that of its old quarters. In the new structure there are no angles, no crannies for dust and germs, and the air is changed throughout the building every four minutes. At the rear of each floor is a sun parlor, the one opening off the sisters' quarters being reserved for their use, while the others are for the patients. In the operating rooms the fixtures are controlled entirely by knee pressure, so that the surgeon's hands may be kept free At every from possible contamination from that source. bed is a light, with attachment for fan and push button for signal light. In short, the new sanitarium is believed to be the last word in modern architecture and equipment. The laboratory is being furnished by Dr. C. G. Darling, and the x-ray and hydrotherapeutic rooms by Dr. Theophile Klingman.



Albert Allemann, M. D., Foreign Literature.

Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

Frank B. Martin, Domestic Literature.

Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

The American Red Cross Hospital in Munich. (From a letter to the Deutsches Journal, New York.)

The hospital was established by the American colony in Munich. It is located in a private building leased for the purpose. Forty-five American ladies, among them Mrs. T. St. John Gaffney, Miss Edith Walker, Mrs. Chas. G. Miller, Countess Lerchenfeld, nee Wyman, and Mrs. Chas. Cahier have devoted their services to the hospital. This American institution is doing a great work, and has impressed the people of the Bavarian capital with its excellent organization, management, and equipment. No small merit for the success of the undertaking is due to the American consul-general, Mr. T. St. John Gaffney.

The Royal Orthopedic Hospital in Munich (Die kgl. orthopadische Klinik in München). F. Lange, München med. Wchnschr., 1914, LXI, No. 22.

This new clinical hospital is connected with the Bavarian State Institution for the Education of Crippled Children. The building consists of two wings, which meet at a right-angle. One wing contains the home for crippled children, in which 150 pupils are educated and trained in various trades; the other wing forms the clinical hospital containing 90 beds. The institution is situated in a healthful and pleasant region near the city of Munich, offering exceptional advantages for open-air treatment. Of special interest is the fact that the institution uses light signals instead of bells, making use of different colors for the various purposes.

Reserve Hospitals and Disposable Beds (Reservelazarette und vorhandene Krankenbetten). Dr. Steinmann. München med. Wchnschr., 1914, LXI, No. 38.

The present war has aroused the patriotic and public spirit of the whole German people. Cities, towns, and even villages have offered their services for the care of the sick and wounded soldiers. Private halls, schools, and other public buildings have been converted into reserve hospitals. The author computes that there are about 230,000 reserve beds at the disposition of the authorities. Adding to this number the beds of the regular military hospitals and of the field hospitals, we get about 400,000 beds, a number far exceeding any possible demands. Of the 6,000,000 German soldiers only 3,000,000 will see actual fighting. Experience has shown that in a modern war about 20 percent of the combatants are wounded, and, assuming that it takes on an average six weeks to cure a wounded soldier, the author calculates that the people have offered the authorities 100,000 beds more than are needed. Many of these offers have already been declined.

The author advises, above all, the smaller communities not to go to the expense of establishing reserve hospitals, especially if they possess a community hospital.

Suicide of a Patient in a Hospital and the Liability of the Director of the Hospital (Selbstmord eines Kranken in einer Heilanstalt und die Haftpflicht des Anstaltsleiters). Ztschr. f. Krankenanst., Leipzig, 1914, X, No. 24.

A business man was treated for severe neurasthenia at a sanatorium. He suffered from suicidal mania, which manifested itself at certain times. During one of these spells the patient hanged himself. The widow and children of the deceased at once sued the owner of the institution for damages, but without success. A suit was then brought against the medical director for alleged carelessness. The court refused the annuity asked for on the ground that it could not be shown that the patient, if he had lived longer, would have been able to attend to his business and provide for his family. The court held that for a successful damage suit two prerequisites were essential—(1) the physician must have been unreasonably careless, and (2) it must be shown that the family suffered real damage through the death of the patient.

Tubercle and Influenza Bacilli Carriers in Open Health Resorts and Sanatoriums (Tuberkulose- und Influenza Bazillen-Träger in offenen Kurorten und Heilstätten). Dr. Ritter. Med. Klinik, Berlin, 1914, X, No. 25.

The author comes to the following conclusions: well-managed sanatorium the danger of infection from tuberculosis and influenza patients is slight, and the institution is not dangerous to the surrounding country. Patients with pulmonary tuberculosis are not dangerous in well-managed open health resorts, but, wherever possible, it is advisable to place in sanatoriums patients who cough and expectorate, where they receive better care and treatment. The danger from influenza bacillus carriers is greater than that from tuberculous patients, but this danger can be minimized by proper hygienic measures. The chief danger of infection lies in the beds, in the preparation and preservation of food materials, and in the treatment of used garments. All sanatoriums, hotels, etc., should be held to strictest cleanliness by police regulations. The hygienic supervision of such institutions is a great necessity.

The Results of the Marine Cure of the Milanese Hospital at Celle in Liguria (Risultati della cura marina nell' ospicio milanese di Celle Ligure). E. Roncoroni. Ospedale Maggiore, Milano, 1914, II, No. 7.

The Italians were the first to establish seaside hospitals for the treatment of tuberculosis. The mild climate, the pure air, the wealth of sunlight, the beautiful seashore render Italy especially adapted to this method of treatment. Yet, according to the author, France, Germany, England, and other countries are far ahead of his country in the number and efficiency of seaside hospitals, though those nations enjoy far fewer natural advantages, as their seaside hospitals are exposed to the rough winds of the north, and the sunlight, which is an important factor in the treatment of tuberculosis, is much less abundant. While altitude, he says, is a valuable factor in the treatment of this disease, it cannot surpass the seashore as a remedial agent, and Italy should devote all her efforts to establish seaside hospitals.

The hospital which the city of Milan established at Celle on the coast of Liguria has made a splendid record. During the year 1913 the city sent 1,614 tubercular patients to the seashore. The hospital was open from May 21 to October 2. Each patient stayed on an average of

forty-three days at the institution. The therapeutic measures were very simple, and consisted almost entirely of natural agencies, as seabaths, sunbaths, open-air treatment, and gymnastics. The results for the glandular forms of tuberculosis were very favorable, no less than 68 percent of the patients being cured. In the form of cutaneous tuberculosis 50 percent were cured. Of the patients with tuberculosis of the bones and joints 34 percent were entirely cured, 50 percent improved, and 16 percent remained stationary.

Hospitals and the War. Hospital, London, November 7, 1914.

It is interesting to note that with the influx of wounded the London hospitals are making strenuous efforts against interference of the ordinary work in treating the poor of the neighboring districts. At St. Bartholomew's Hospital one wing containing 174 beds has been placed at the disposal of the war office. It has been about two-thirds occupied since the first demand was made on it in the middle of October. Middlesex Hospital has allotted about 85 beds, with the reservation of 130, at the convalescent home at Clacton-on-the-Sea. At the Royal Free Hospital, which has been appointed as a section of the fourth London General Hospital, about 40 casualties have been provided for. North London or University College Hospital furnishes three wards for the wounded. St. Mary's Hospital has no wounded among its patients. At Guy's 30 wounded officers are being accommodated in a special ward, which is fitted with cubicles. About 68 wounded soldiers are receiving treatment in Westminster Hospital.

Latent Dysentery or Dysentery Carriers in Sarawak, Borneo. W. L. Christie, Brit. Med. Jour., London, 1914, II, 118.

The author found that during nine months, of 554 cases admitted to Sejijah Hospital, 65 were dysentery carriers and 19 others had usual signs of the disease. Thus there were 12 percent of carriers of latent dysentery and 3.4 percent of actual cases. The actual death rate of hospitals reached only 3 percent on all cases and the three deaths out of 33 cases of acute dysentery he believes were due to the disease not being recognized earlier and not brought to the hospital until in a dying state; that after getting emetin and cases in first stage there were no deaths. His conclusions are that 30 percent or 40 percent of entire population are dysentery carriers; that the examination of them early and treatment with saline clears the colon of ameba and prevents dysentery; that much invaliding and debility are due to latent dysentery; that ameba is of one type, and cannot safely be pronounced nonpathogenic at any time; that emetin is most valuable in obstinate, latent cases, and is essential in dangerous acute amebic dysenteries, robbing them of their terrors.

A Few Observations of an American Hospital Architect. E. F. Stevens. Het Ziekenhuis, Amsterdam, 1914, V, No. 7.

While the author praises the hospitals of Holland as well-planned, magnificent institutions, he finds that, from an American viewpoint, they could be improved in a few details. Thus, the doors used in Holland institutions are paneled with moldings, in which dust and dirt collect and which must be cleaned. The doors used in modern American hospitals have a smooth surface, affording no resting place for dust. The window finish can also be made without projections. American hospitals are generally provided with the sliding sash. By using the ventilating apron, the lower sash can be slightly opened and fresh air admitted without draught. The cabinets for the sink

rooms, tea kitchens, etc., are usually made open, without backs and with a sloping dustproof top. This allows for cleaning at the back, as well as at the front, without moving the cabinet. The closet is made of the height of the door and only large enough to accommodate the personal belongings of the patient. The hardware used in the Holland hospitals is less simple than that in use in America. The masterkeying of which the American hardware is capable makes it possible to have but one small key to unlock all doors and cabinets in the hospital, and still have ample security with each individual lock.

The First Installation of Our Field Hospital (Die erstmalige Einrichtung unseres Feldlazarettes). H. Albrecht. München med. Wchnschr., 1914, LXI, No. 41.

The author, who is reserve surgeon in the First Bavarian Army Corps, describes the establishment of the field hospital at the great battle of Saarburg on August 20. From a height near Saarburg the whole valley in which the battle raged could be overlooked. But so different is a modern battle from former times, that no human being in the whole wide expanse could be seen. But numerous farms and villages were burning, set on fire by bursting shells, and the air was filled with the small white clouds of bursting sharpnel, accompanied by a continuous deafening roar of the heavy guns. At 9:30 a. m. the order came to establish the field hospital. The author says the division of labor, as established in the regulations of the German Hospital Corps, stood the test splendidly. When the order arrived, everyone knew what to do. The church, the school house, and surrounding buildings were converted into hospitals. Operation. bandaging, sterilization, and drug rooms were selected; beds, mattresses, etc., made ready; soup, tea, and foods for the starved wounded were prepared. So complete was the organization that in one-half hour everything was ready and the first operation could be performed. Even during the organization of the hospital the wounded, French and German, were brought in. A surgeon was especially appointed to receive them, to give those with painful wounds a morphin injection, and to assign them, according to slight or serious wounds, to the various build-

The Architecture of Emergency Hospitals. Hospital, London, No. 1481, 1914.

Among the many country seats in England which are being transformed into emergency hospitals for officers is Balmoral Castle. The fact is interesting in more ways than one, for Balmoral affords an example of that modified Gothic architecture which, for express hospital purposes, has been discarded for many years. The reception rooms on the ground floor are, of course, spacious, though even the ball room is by no means exceptionally large. In the case of the bed rooms a story is told which may be worth repeating. In the active days of John Brown, when Queen Victoria was in the habit of paying her annual visit to Balmoral; the minister in attendance was, of course, among the guests who were constantly coming and The story goes that a certain prime minister of large physique found difficulty in having his morning bath owing to the smallness of the bed room. Since then alterations have been made, but it is probably true to say that the nurses who will be installed at Balmoral when hospital work begins in earnest will not find their bed rooms in the castle larger than those of the average nurses' home. The point illustrates one of the chief difficulties of any architectural style based on the Gothic model-namely, that the convenience of the upper rooms is bound to suffer from the limitations which the pointed gable and turret impose; for the Gothic, as Ruskin remarked, is that style which employs the pointed arch for the roof proper and the gable for the roofmask. Palladian, on the other hand, and we may say all post-Gothic styles, depend on breadth rather than height, attract the eye horizontally rather than vertically, and the extreme logical development of this principle is the pavilion of modern hospital architecture.

Less Meat in the Hospital Diet (Weniger Fleisch in der Anstaltskost). Dr. Meltzer. Psychiat.-Neurol. Wchnschr., Halle a. S., 1914-15, XVI, No. 25.

The author, who is director of an institution for feebleminded children at Grosshennersdorf, Saxony, refers to the researches of Chittenden, Rubner, and others, who showed that people in general eat too much meat. By reducing the quantity of meat in the daily diet at his institution, the children did not only show no decrease in weight, but he observed a markedly favorable effect on the epileptic children, who form about 50 percent of the patients. The epileptic attacks among these children have very greatly diminished, and cases of status epilepticus are now unknown in the institution. The author does not claim that all hospitals should reduce the daily quantity of meat to the same extent as he did at Grosshennersdorf. but he thinks that, if each institution would scientifically compute the nutrient material of the daily diet, it would be found that most hospitals feed their patients too much

On Lighting the Operating Room in Small Country Hospitals (Zur Beleuchtung der Operationszimmer kleiner Landspitäler). V. Neumayer. München med. Wchnschr., 1914, LXI, No. 24.

Many country hospitals are so situated that it is impossible for them to obtain gas or electric illumination. These hospitals have always much trouble to get the operation room properly lighted. The author has obtained very favorable results with the Geg dry benzine lamp. A three-armed chandelier of this lamp gives a very bright light, sufficient to perform even the most delicate operations. The lamp is so constructed that the benzine is taken up by a porous stone and by a simple gasifier is carried to the incandescent bulb. The light is whiter than the incandescent gaslight. This lamp has also the great advantage that there is absolutely no danger connected with it, which is quite important in country districts, where provisions to put out fires are rare.

Should Hospitals on the Pavilion System Have Connecting Galleries or Not (Ospedali a padiglioni con gallerie di comunicazione o senza gallerie)? E. Bertarelli. Rivista di ingegneria san., Milano, 1914, X, No. 18.

Some time ago this question was submitted to the German hospital architects. The answers may be divided into three groups. Some of the architects maintained that a pavilion is a definite unit and should stand entirely separate; besides, the construction of subterranean galleries is an important item in the cost of construction. A second group considers connecting galleries a great convenience, as they protect the personnel in cold, rainy, and stormy weather. A third group of writers express themselves against subterranean passages. In their view the connecting galleries should be constructed above ground and in such a manner that they freely admit air and light. The roof, too, should be flat, that it may serve as a connecting passage for the second floor. Bertarelli himself is against subterranean passages, but considers covered, but open, galleries above ground a great convenience.

Simple Form of Dressing Sterilizer. Dr. Charles W. Cathcart, Edinburgh Medical Journal.

The author proposes to sterilize dressings at atmospheric pressure, and presents an improved form of dressing box, the original of which he has used for twenty years. He says it has always given perfect satisfaction. Of the improved apparatus the author says:

"The most important of these improvements consists in a simplified form of drum, which is now in the form of a cube instead of a cylinder. By adopting the cubical form I am able to dispense with the complication of sliding shutters, which were an essential feature of the drums previously used. The cubical box is open at two opposite sides. One constitutes the top; the other is provided with a false bottom of open wire-work, and forms the bottom. Each of these open ends has a detachable cover, which fits equally well upon the open ends or closed sides of the cube. During sterilization the covers are placed on the sides of the drum, leaving the top and bottom ends completely free for the current of steam to pass through and through the dressings. When the steaming is finished, the covers are replaced in position and the drum is lifted about by rings at the side.

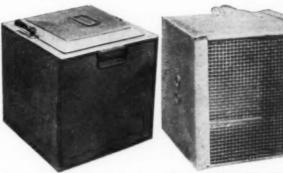


Fig. 1. Cubical sterilizer, showing external aperture for escape of steam and controlling stop-cock opposite the filling hole.

Fig. 2. Cubical drum laid on one side to show the open wire-work forming the false bottom.



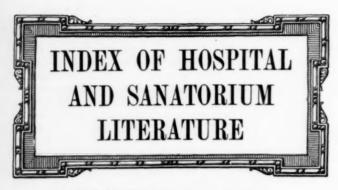
Fig. 3. Cubical drum with covers fitted on to the sides so as to leave the ends open during sterilization.



Fig. 4. Cubical drum with covern in position after sterilization is completed.

"The sterilizer is now also made cubical to suit the drums of corresponding shape. In its essential feature—i. e., control of the direction of the current of steam by means of a stop-cock—the sterilizer remains as before. I make the steam enter the inner chamber below the central part of the bottom of the drum. In rising up through the dressings to escape above, the steam drives all the air before it, and maintains a through-and-through current as long as the surgeon wishes. Half an hour is all that I recommend—perhaps less would suffice. Owing to the kindness of Dr. McGowan, of the Royal College of Physicians' Laboratory, who conducted the bacteriological inquiry, I find that sporing cultures of anthrax laid in the center of the drum filled with dressings are killed after half an hour's steaming."

St. Elizabeth's Hospital at Utica, N. Y., will begin the erection of a new home early in the spring. The building is to be four stories high and will contain accommodations for 100 patients.



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The Graduate Nurse.

I had long felt a hesitancy in using the term "trained nurse" without knowing why I should object to its use. However, I became more definite about it when, a short time ago, I found this sentence in the work of an educationist: "We cultivate plants, train animals, and educate persons." Clearly, the supreme idea conveyed by the word "cultivate" is that of value derived outside the object. The essential idea in "train" is that of habits, the object being an automatic, though conscious, mechanism; while to "educate" implies the developing of the object, or at least the developing of certain characteristics of it. To "educate" nurses is surely the big word we want, though it is desirable that for convenience we have nurses trained in certain habits, yet the word "trained" does not express nearly all we would mean. Qualities possessed by these young women who wish to become nurses must be developed, and there is no suggestion of development in the word "train." In other words, these women must be educated, and when the course of education is completed, we truly express our meaning by the term "graduate," rather than "trained" nurse. And, too, when we speak of this particular educational institution, I cannot see the necessity of adding the superfluous "training" to the fully adequate "school for nurses."

Doubtless I have said enough on this subject, and may trust that our beloved profession will steadily shed its frailties until it blossoms one day in its own perfection, the beauty of which must receive the homage of mankind. The intellectual attributes are in themselves praiseworthy, but it is not in these we place our trust. The profession has for its soul the woman-heart. So, nurses, I pray you, though the heavens fall, keep your hearts true, that the growth of the profession may not be retarded in these its tender years by one unprofitable member, and lest, my dear sisters, it turn in vengeance on you and by its first destructive stroke spoil the delicacy of the soft-toned sweetness in your hearts, reflecting the loss daily in your lives.—A. K. Winnipeg in the Canadian Nurse.

The first one-tenth of the life of an individual should be left to nature; no inhibition should be exercised or developed in the healthy spontaneity of the child, in my opinion, for the first seven years of life. To mix work with play, to surround instruction with great external interest, is the most efficient way to make permanent in the adult the infantile lack of derived intellectual attention.—Dr. Will S. Brown.



Practical Fistula Urinal.

Surgeons have forever been on the lookout for a suprapubic fistula urinal which would fulfill the two main indications demanded of such an apparatus—first, that it will hold the urine without leaking, no matter in what position the patient may be placed; second, that it could be worn by the patient with comparative comfort. Practically none of the apparatus that were heretofore available could be attached so that they would not leak unless they were strapped so tight that the patient was unable to bear them for any length of time. The apparatus illustrated here has been gradually developed from suggestions given the manufacturers by several experienced surgeons, and a sufficient number of urinals have now been applied and found so satisfactory that they may be unhesitatingly recommended to the profession.

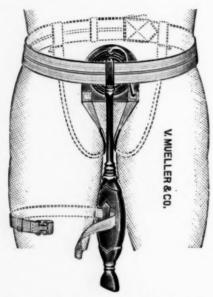


Fig. 1. Fistula urinal as applied to patient.

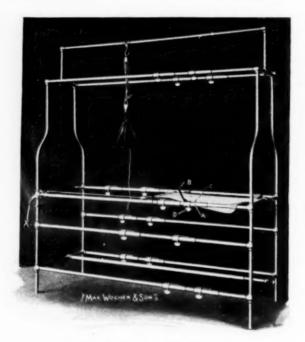
The apparatus consists of a round shallow cup of hard rubber, with an outlet on the bottom for the purpose of attaching a rubber tube and urine bag. This is entirely covered on the inside and outside with soft rubber, and to the edge of the inner rim is attached an inflatable rubber cushion. After the cushion is inflated, the outlet tube is tied, and the apparatus is strapped to the body by a strong belt of elastic webbing. In addition, understraps of non-irritating material are provided, and the urine bag, which has a hard-rubber outlet stop-cock on the bottom, is fastened to the leg by a light elastic strap.

If properly applied, this apparatus does not leak and can be worn by the patient with but little irritation.

Simplified Frame for the Application of Abbott's Scoliosis Jackets.

BY DR. A. H. FREIBERG, CINCINNATI, OHIO.

The Abbott method of treating scoliosis with the aid of special plaster of paris jackets, as introduced by him, has found great favor, not only in this country, but also in Europe. The method of procedure, as well as the necessary apparatus, have been fully described and profusely illustrated in American and European surgical and technical journals. There has been some criticism to the effect that the frame designed by Dr. Abbott is rather too complicated, and on this account Dr. Freiberg, who has had considerable experience with the Abbott frame, decided to have a frame constructed which will permit easier manipulation.



Freiberg modification of Abbott's frame.

The cost of this new frame is also considerably less, and this is quite an item, especially for the smaller and also for the larger hospitals, which often depend to a large extent on charitable contributions.

To publish here the entire technical description would require too much space, but, in order to give some idea of the simplicity of the apparatus, it may be stated that while there are nine different ratchets on the original Abbott frame, there is only one on this, which controls all the extensions. By having the upper horizontal bar placed several inches higher than on the Abbott frame, the new frame may also be used for the application of plaster of paris casts with the patient in a vertical position.

Taking into consideration the several improvements as well as the lower cost, it may be well worth while for the institutions contemplating the purchase of an apparatus for this work to investigate the merits of the Freiberg frame.

Watter's Hypodermic Needle Sterilizer.

There has long been a demand for a simple, efficient, and inexpensive apparatus for the purpose of making the sterilization of hypodermic needles a more uniform and certain procedure, and avoid the use of a common soup spoon, which has been usually used for this purpose This demand seems to have been supplied in Watter's hypo

needle sterilizer, which consists of a simple apparatus for sterilizing needles and forceps with which to fasten the needle to the syringe for sterilization. A small metal cup is attached by a horizontal arm to an upright stand (Figs. 1, 2), so that the cup may be raised or lowered over the alcohol lamp. A specially constructed thumb forceps (Figs. 3, 4) holds the needle by the hub, with the point toward the handle, as shown. The needle and syringe are boiled together in a little water over an alcohol flame, which operation requires less than two minutes, after which the needle can be picked up by pressing together the handles of the forceps and securely screwed to the syringe without its being touched by the fingers.



Figs. 3, 4. Forceps for attaching sterile needle to syringe.

For complete hypodermic outfits for hospital use, an enameled tray is provided, fitted with a glass jar for holding the syringe, bottles for the sterile water and carbolic acid solution, and glass boxes for extra needles and cotton swabs, so that every article required for hypodermic medication is kept in the ward, covered by a sterilized towel or other protection.

To prepare for a hypodermic injection, the nurse first places the needle and forceps in the cup, covering them with a little water and lighting the lamp. In the meantime she draws the syringe full of carbolic solution and expels this into a medicine glass; then draws it full of sterile water, which is similarly expelled. She then removes the sterilized needle by pressing together the handles of the forceps and screws it on the syringe, as shown.

If the medicament employed is in solution form, it is drawn into the syringe through the needle direct. If tablets are employed, sterile water is prepared in the cup and the nurse draws the syringe full, throwing away what remains in the cup. A tablet is placed in the cup and the syringeful of sterile water is expelled on the tablet. As the water is warm, the tablet dissolves almost instantly, and thus gives the amount of solution required, which is drawn again into the syringe and injected.

The Beck-Mueller Ether Vapor and Suction Apparatus.

A new ether vapor and suction apparatus which has been used of late at the Cook County Hospital seems to bid fair to greatly simplify the ether vapor method of anesthesia, and also to allow less time being consumed for operating. The apparatus, while primarily designed for nose, mouth, and throat operations, is just as adaptable for all general operations, and should therefore be of especial interest to the hospital superintendent.

By the ether vapor method, anesthesia can be administered through nasal tubes, mouth gags with ether tubes attached, or by the intratracheal method. The advantage of such a method is acknowledged by all, since anesthesia can be given continuously during the progress of an operation in the nose or throat. Gwathmey and others advise the use of warm ether vapor, as by this means anesthesia is administered without the danger which might result from inhaling cold ether vapor, and anesthesia is produced quicker and with less tension on the part of the patient. The saving in ether is also a consideration.

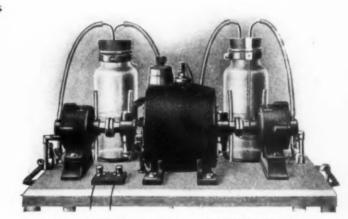


Fig. 1. Beck-Mueller ether vapor and suction apparatus.

There are at the present time several types of ether vapor apparatus on the market, but to practically all of them certain objections have been advanced. With most of them a foot bellows is depended on to produce the vapor, resulting in an unsteady pressure, proving tiresome to the anesthetist, and has a tendency to prevent the proper attention being given to the patient under the operation. In fact, most operators who have used ether vapor apparatus concede that pressure which is not constant and which cannot be absolutely controlled is undesirable. Other types of apparatus are motor driven, but many of these are faulty in that the pump and motor are belted, the belts frequently breaking at an inopportune time, causing delay and annoyance. Others are supplied with a motor which is entirely too small to do the work satisfactorily.

Suction or aspirating bottles have been used for some time for drawing blood from the field of operation, draining sinuses in operation on the bladder, and, in fact, wherever sponging is necessary. Aspirating by hand has not been altogether satisfactory, to say nothing of an assistant required to operate the pump.

The new apparatus here illustrated has been designed according to suggestions received from Dr. Joseph C. Beck, of Chicago. The points of improvement claimed over other types of similar apparatus are as follows: 1, a motor sufficiently powerful to operate continuously without overheating; 2, pressure pump directly connected to the motor shaft by a universal coupling; 3, absolutely constant flow of pressure and continuous vacuum; 4, heating unit under the ether container; 5, heating unit for the ether vapor; 6, filter, preventing the entrance of foreign matter into the anesthesia tube.

One end of the armature shaft drives a rotary pressure pump, and the other end a rotary vacuum pump. Attention is called to the fact that by this means both pressure and vacuum can be operated at the same time, the action of the one not being affected if unusual demands are made on the other. Many pumps heretofore used were inefficient, as it was impossible to aspirate successfully during the time ether was being given. In this apparatus pressure and vacuum are produced by two separate units, driven by one motor, doing away with belts or friction wheels. The pressure delivered is sent through a metal tube terminating in the ether bottle.

For controlling to the minutest degree the amount of air pressure, an ingenious valve has been designed, so that the pressure can be increased or decreased at will. This is accomplished by means of a relief valve, so constructed that when the pressure is to be reduced through regulating the valve, the excess air is liberated through the relief valve. This relief valve is entirely automatic and needs no attention whatever.

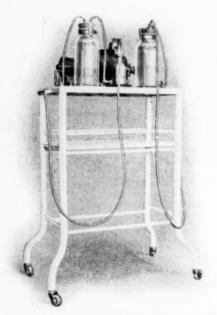


Fig. 2. Ether vapor and suction apparatus as mounted on movable stand.

The compressed air passes through the ether and ether vapor is formed. This ether vapor then passes into the heating chamber through the filter and is delivered to the patient.

The heating unit, which is placed under the ether bottle, and the current supplying heat to the heating chamber, as well as the motor itself, are all operated by a single switch. The vacuum pump is connected by a valve similar to the one used on the pressure side of the apparatus. Sufficient vacuum is produced for all classes of work, not only for operative work in the nose and throat, but also in gynecological and abdominal surgery.

Connection for the attachment of a monometer for intratracheal insufflation is provided. A valve for connection of oxygen containers is also furnished.

Sweet's Eye Localizer.

This is an improved apparatus for determining the exact location of foreign bodies in the eyeball and orbit by radiography. Practically every aid to surgical diagnosis has been subject to frequent and radical change within the last few years. Tremendous strides have been made in surgical technic, and corresponding advance has resulted in the mechanical equipment demanded. A most significant tribute to the efficiency of Sweet's eye localizer is,

therefore, found in the fact that its essential principles remain the same as when first introduced nearly two decades ago. Today it meets the needs of ophthalmologists with the greatest exactitude, and yet is so simple in operation that any radiologist can readily master every detail involved.

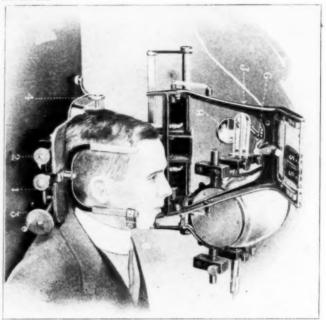


Fig. 1. Patient in position, awaiting adjustment of apparatus, with the upper jointed part turned back.

One of the principal difficulties experienced with earlier types of this apparatus was to determine exactly what measurements were to be made from the radiographs and the manner of transferring them to the localization chart to find the lines of shadow of the foreign body at the two exposures. In the new and improved type of Sweet's eye localizer the same principles are involved as in former types, but the construction of the instrument relieves the

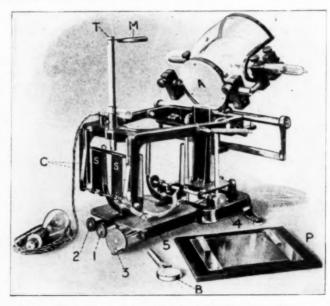


Fig. 2. The apparatus in position for taking the first radiogram.

operator of the necessity of taking measurements from the radiographs or of drawing any lines to represent the planes of shadow. In the new apparatus the tubeholder, indicating ball, and plateholder are on a movable stage, and therefore constantly preserve a known, unvarying relation to each other. The angle of the rays with the eyeball and the distance of the tube from the plate are always the same, so that one indicator is sufficient. This consists of a small lead ball supported in a ring of transparent glass. The operation of placing this ball opposite the center of the cornea is accomplished by means of adjusting screws, conveniently placed on the frame of the instrument; the whole instrument, indicating ball, x-ray tube, and photographic plate, being moved together, their respective positions remain unaltered.

In many cases the injured eye is incapable of performing the function of sight, so that the optical axis must be maintained parallel to the plate by some means other than voluntary direction of the injured orbit. How this is accomplished is explained below in connection with the accompanying diagrammatic representation of the apparatus.

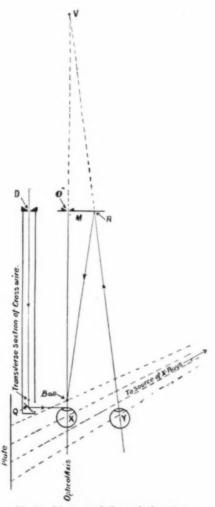


Fig. 3. Diagram of the optical system.

R (Fig. 3) is the point on the mirror (M, Figs. 2, 3; H, Fig. 1) at which the beam of light from the localization ball is subjected to reflection. Its image is reflected into the uninjured eye at Y (Fig. 3), and is seen as a virtual image at the point V (Fig. 3). The injured eye (X, Fig. 3) will therefore be in the correct position if the patient is made to look with the sound eye (Y, Fig. 3) at the reflection of the ball in the mirror (M, Figs. 2, 3; H, Fig. 1).

The operator looks through the aperture (O, Fig. 3), and adjusts the ball vertically over the center of the cornea of the injured eye while the patient is gazing at the reflection of the ball, or indicator. Parallelism is thus

insured between the optical axis of the injured eye and the plane of the photographic plate.

In order to adjust the localizing ball exactly to a point 10 millimeters from the apex of the cornea, an ingenious optical method is employed, obviating the necessity of touching the cornea. A telescope with mirror and cross wire readily effects this adjustment. The mirror (Q, Fig. 3) gives an image of the cross wire and a lateral image of the cornea. Looking through the eyepiece, the operator adjusts the instrument until the image of the cross wire is in direct contact with the summit of the cornea. The indicating ball will then be found to be exactly 10 millimeters from the center of the cornea. A miniature incandescent lamp, mounted in an adjustable shade, illuminates the side of the nose of the patient, insuring the well-lighted background and distinct image of both cornea and cross wire.

By this method of adjustment little is left to the discretion of the operator, and results are therefore practically infallible. The variation of distance, due to parallax error, is only 1-10 millimeter. After adjustment, by instructing the patient to fix the image of the indicating ball in the mirror with the uninjured eye, any movement of the eyeball during exposure is prevented.

Since, even with unimpaired vision, it is difficult to gaze steadily at a specified object for any length of time without wavering, the shortest time possible should elapse between exposures. This necessity is foreseen in a new apparatus by providing for the recording of both exposures on the one plate. Thus the time needed for making the two radiographs is materially shortened, and the possibility of movement on the part of the patient, or misadjustment of apparatus in changing plates, is minimized. Metallic shutters protect such portions of the plate as are not to be exposed to the x-rays.

The tubeholder is provided with a heavy lead-glass shield. This lead-glass offers opacity to x-ray emanations, but is sufficiently transparent to the vision to permit the operator to readily observe the tube when illuminated. At a glance it can be ascertained whether the tube is working properly. The customary lead diaphragm is used.

The central orifice of the diaphragm is covered with a sheet of aluminum, offering little obstruction to the more penetrative rays, but filtering out the softer x-rays which would otherwise be absorbed by the skin, thus greatly lessening the possibility of unfavorable action on the patient. This also protects the eye against possible damage in the event of breakage of the tube.

That disease threatens to exterminate the native population of Alaska is declared by the governor of the territory, Hon. J. F. A. Strong, in an appeal to the Washington Government for medical relief. Although health conditions among the whites are generally excellent, disease, suffering, and death are everywhere apparent among the natives, and particularly so in the remote sections of southwestern Alaska and the eastern shore of Behring sea. In these sections, it is said, sanitation and hygiene There are few physicians and practi are unknown. no hospitals. Crippled children are numerous. Many children 4 or 5 years old—victims of disease, dirt, neglect, hunger, and cold—have not learned to walk. sis is the principal affliction. The Government Tuberculo-The Government has provided schools, in which good work is being done, the teachers giving special attention to sanitation and hygiene, but according to Governor Strong medical care and attention are imperative. The establishment of well-equipped hospitals in places where they will serve the needs of the greatest number, the employment of physicians, the isolation of the infected, and the thorough education of the natives in hygiene and sanitation are the recommenda-



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Address to Massachusetts State Nurses' Association.

BY DR. WALTER P. BOWERS,

Secretary of Massachusetts State Board of Registration in Medicine and also for Nurses.

I am especially glad of an opportunity to address the Massachusetts State Nurses' Association, first, because of our common interest in all that pertains to the care of the sick, and, second, that I can here in this public way tell you that I have been inspired and helped by your profession in my work as a physician, and that my association with nurses has led me to admire women more and more; and now in these recent years the field has been broadening in which you and I can work for the elevation of the standards of a profession which is of such incalculable benefit to the human race. You are a part of the complicated machinery by which illness is prevented, suffering alleviated, and the dangers of disease minimized.

At a recent meeting of the Massachusetts Medical Society it was my privilege to emphasize the idea that the promotion of health, both public and individual, is one of the greatest problems of the present day, and an eminent clergyman took issue with that statement, claiming that the development of character exceeded in importance the value of improved health conditions. None of us would for a moment detract from the great work of the religious teacher, but we can see perhaps more clearly than the clergy that the sound body is a foundation for the sane mind, and one of the greatest helps in the development of character would be the elimination of disease with the degeneracy imposed on the race by faulty physical conditions. We can work with and for the clergy in presenting human material better fitted for the higher development of the spiritual nature. I have always contended that the sentimental, hysterical, and unstable mental conditions of the sick cannot be of any great value in leading to constructive moral development, and I firmly believe that sickness is an unmitigated curse, and the term "resignation" as applied to our misfortunes is a confession of weakness.

A sympathetic preacher once asked a bereaved husband if he was resigned, and the man answered in his broken German, "Mein Gott, I had to be." I say, let us not be resigned to the distress and disaster of disease, but let each failure to cure stir us to greater effort.

Your association is formed for the double purpose of bringing you together socially and to develop greater efficiency. The social element is universally recognized as an essential feature of human effort. We have to know each other in order to work together to the best advantage, and, as we come to know each other, the irritations engendered by mischiefmakers fades away; and whereas, working apart, we may be suspicious of one another, when we come to discuss questions of policy we often find that the

opinion and experience of some other mind modifies our views and attitudes.

Perhaps you will pardon me if, from my position, hearing different people and seeing both sides of the shield, I offer a friendly criticism. You have as a requisite for membership certain provisions which seem to be a barrier to the admission to your association of graduates of a certain school. When I say this, you will perhaps hold up your hands in protest, but the fact remains that certain applicants for admission into this most estimable and useful organization have not received notice of acceptance or rejection, and this has led to a certain feeling of irritation and opposition to your work.

Referring to medical politics, it may be well to call to your mind a condition which, most of you know, existed several years ago when members of the Massachusetts Medical Society were disciplined for consulting with homeopaths, and some of the great men in medicine fought the homeopaths most bitterly. Even the gentle, public-spirited, and noble-minded Holmes went about lecturing on the follies of this belief, but he accomplished nothing more than to amuse his hearers and inspire the adherents of this theory to a more active propaganda. All adherents of the homeopathic practice were then denied admission to the Massachusetts Medical Society.

After a time men began to suspect that names count for little, and that a man with a scientific mind might adopt a banner different from that employed by the majority; and when men came to be regarded for what they really were and not so much for the title assumed, then that great body, one of the oldest medical organizations in this country, tore down the barrier and said, "all that we require of our members is that they shall be men who have had the proper education to profitably associate with us, and are honestly working for the advancement of rational medicine," so that today a man may graduate from a homeopathic school and yet be a member of the Massachusetts Medical Society. So here and now I ask you to study this question, and decide if you cannot simply determine whether a certain nurses' training school does fit a nurse so that she can successfully meet the requirements of your profession, and, if so, why not receive her with open arms? In other words, avoid all sectarianism and accept all wellqualified graduate nurses. There are plenty of things to fight, and the most united effort will be done too much to overcome them.

I want to call your attention to our defective law which was enacted in 1910. Some of you do not like that law; some of you have felt doubtful about registering under it, and I sympathize with that feeling. But it is a foundation on which we hope to build a better one, and, if it can be made better, I think you will all indorse it.

While many of you contend that a nurse's duty consists in first making herself well equipped for her work and then doing faithfully all that comes to her, it would be well for us all to develop the feeling of responsibility about all matters of public policy which your work fits you to intelligently consider.

Women are entering into the larger affairs of life, and, where they show ability, are crowding the men hard. They are demanding recognition for themselves and their views. They are serving on boards and commissions, and we men are getting ready to conclude that we cannot get along without you in many phases of public life. We are glad to acknowledge your persuasiveness and your persistence. The progress you have made in the cause of equal suffrage, the wonderful uplift in civic affairs brought about by women's clubs, bear eloquent testimony to the results of

your efforts, so that there is every reason why every nurse should study the questions relating to her legal status and be a part of the movement to improve the standing of her profession. The responsibility for action rests on those who know the need of better conditions. The people must be taught.

You may agree with me that the mentality of the average legislator is such that he may not comprehend your plan or even understand your motives, but, when this large and influential body of earnest women gets thoroughly aroused to the discreditable situation and will start a campaign with the understanding that it may be for years, but that they are united and determined to win because they know they are right, sooner or later I predict success. Even though the triumph may be delayed beyond my active working days, it will be a source of pride that I was privileged to be with you in the beginning.

Let us for a moment consider some details of this registration law. There is one unnecessary provision in the law where it says that the fifth member of the board shall be a physician who is a superintendent of a hospital having a training school for nurses. Some bills are said to have jokers in them, and when I read this I couldn't help being reminded of the old saying, "as useless as a fifth wheel to a coach." Don't misunderstand me, for I do not in any way use this association of the word "fifth member" with the fifth wheel of the coach as any way applying to the worthy and eminent man who is appointed under this specification. He is a most useful and devoted member of the board, but my contention is that the provision that he must be a physician is wholly unnecessary, and I am suspicious that this clause was inserted because some doctors were afraid to have you nurses given too much authority or too much freedom. There may have been an unfounded doubt regarding your ability to regulate these matters. Doctors have always wanted to keep you under their thumbs in a way, you know.

I have no objection to a doctor being appointed if he is competent to deal with all the problems of nursing, but all superintendents of hospitals who may happen to be doctors do not keep actively in touch with nursing problems. Nursing is becoming more and more a profession of great dignity, and to a very large extent the interest of the nursing profession can be safely left to the well-educated and competent women who direct the policies of this calling. The association of this board with the board of registration in medicine is a useful and workable plan in the early stages of the scheme, but some day it may properly become a department under the State Board of Health. This also, in my opinion, applies to the Board of Registration in Medicine.

Section 11 should be changed so that no person should be allowed to do this work in Massachusetts without some sort of registration. My feeling is that there should be two classes of nurses registered—those who can meet the full requirements of the board, and another registration for honest people of limited attainments who could fill only certain positions. I am opposed to the practice of allowing the so-called practical nurse to work without any kind of registration and without any legal obligations or supervision.

The present plan leaves her perfectly free to do any work, assume any responsibility, make any claim for herself that she may wish, so long as she does not claim to be a registered nurse or use the title R. N. This is all wrong, for this law is designed to protect the public under the police power of the state, and it leaves it optional whether good nurses shall register or not, and leaves poor

ones entirely outside of any scheme of supervision or regulation. The state of Massachusetts won't even allow a plumber to work in your house until he has been registered after an examination, but it will allow unregistered nurses to care for cases of pneumonia or typhoid fever, diseases in which there is the possibility of sudden and dangerous developments, calling for judgment and technical skill in applying physicians' orders. I would feel sorry for anyone who had to rely on an untrained nurse about the sixth day of a pneumonia case, and just at that moment I would prefer to take my chances with an unregistered plumber in dealing with a defective sewer pipe.

The final solution of the problem should result in the regulation of two classes of nurses—one class of fully qualified nurses, with authority to enter on the responsibilities of any case, and the other of nursing attendants, or with some other easily understood designation, who can care for only chronic or comparatively simple disorders.

There is at the present time an analogous scheme being thought out in medicine which would provide that only those registered physicians who had subjected themselves to further technical examinations should be allowed to do major surgical operations, thereby making two classes of registered doctors. Those of you who have watched the abortive attempts of untrained men to do surgical work can readily see the wisdom of this.

With all these plans we must fully realize that the purpose of these laws is not to benefit us, but only to make us of greater service to the people, and it is only on that ground that we can confidently go before the legislators and hope that they will make laws in response to our recommendations.

Now I come to the most vital part of our defective law, which is the bone of contention both among our friends and our enemies. Some of our friends do not agree with us in our effort to try to amend this section, and our enemies use this as a weapon with which to defeat us. Reference is made to the fact that the Board of Registration of Nurses under our present law has to examine every applicant who is assumed to be of good moral character, is 21 years of age, and who pays a fee of \$5. Pending the development of a comprehensive law which provides for two classes, we want that law changed so that we shall examine only graduates of training schools, and furthermore that these training schools shall meet the requirements of your State Board of Registration. For the purpose of determining the standing of these training schools, the defeated bill of last winter specified that the board shall have authority to investigate at any time the training schools for nurses in this commonwealth for the purpose of determining their fitness and efficiency as shown by their general equipment, by the character, the methods, and the extent of the instruction given therein. Such investigations shall be made by a person legally entitled to R. N., and who is a graduate of a training school for nurses connected with a hospital of at least 50 beds and which gives a course of instruction in the art of nursing covering a period of not less than two years.

We wanted that because it is the only way whereby we can prevent the graduates of poor schools from standing on an equality with those from good schools, and also is the only way of doing away with registering of nongraduates.

Our opponents did not want it because some felt it was aimed at certain schools, some because they did not want to eliminate the nongraduate, some because they did not want the inspection to be done only by a graduate of a school having 50 beds, some because they did not want the

low-grade school put out of business, and some because they did not want the principle of state inspection of educational institutions to become an accepted policy. All the objections were based on selfish motives. All the arguments in favor were based on better service to the public. Self-interest prevailed, and Massachusetts is still left to the ignominious position of being one of the backward states in dealing with the care of her sick and injured, and in meeting the problem of the medical needs of her population.

We could tell you of the effort we made, how we sent literature to every member of the Legislature, and then found that practically no legislator took the trouble to inform himself of the merits of the case; how one of our own board was led to come out in opposition to the rest; how we attended hearings and had eminent talent from other states to help us, and how it became evident that our representatives in the general court were incapable of seeing the real value of the measure and refused to give it serious consideration. It may be we shall have to wait for a new generation to grow up, and, if so, please begin a campaign of education with your nephews, who are to be the coming lawmakers, and try to instill into their minds a little courage and common sense and a feeling of responsibility for their fellow-creatures.

Remember that no great reforms ever come except through long and patient effort. That the men and women who think clearly, follow paths of duty, suffer through criticism and even persecution, by steadfastly fighting for

high ideals, have won out.

Remember the women of your guild who have met every rebuff, have suffered physical pain and weariness, have denied themselves the comforts of life that they might lay the foundation of better service for their fellowcreatures, and who now stand enrolled as the great benefactors of mankind.

As you recall these noble women, there will come into your hearts, I am sure, a desire to be something more than a mere breadwinner, and to take your place as an influential factor in the elevation of a service which is now recognized as an essential feature of the scheme of better living.

The American Society of Superintendents of Training Schools for Nurses.¹

BY MARY M. RIDDLE.

The year 1893 was a momentous one for this vast and wonderful country of ours in that it showed to the world in the great exposition at Chicago, known as the World's Fair, the progress made in recent years within our own land as well as that made by other countries in the arts and sciences, in commerce and manufactures, in education and philanthropy, and in general uplift and civilization.

It proved to be the meeting place of various congresses and conferences for the study and prevention of ills as well as for the quickening of impulses for the betterment of mankind. Among many others, there was held an international congress of charities, correction, and philanthropy, with a section on the hospital care of the sick, training of nurses, dispensary work, and first aid to the injured, and a subsection on nursing.

The idea of having a subsection on nursing is said to

The idea of presenting a history of the work and growth of this dignified and useful body grew out of the lack of knowledge of its existence, manifested by the trend of discussion and remarks in private conversation at the meeting of the American Hospital Association at St. Paul in 1914. For the facts herein related of the very earliest history the writer has been obliged to consult the annual reports of the association, as well as the Transactions of Section III of International Congress of Charities, Correction, and Philanthropy, held in Chicago, June 12 to 17. 1893.

have originated with Mrs. Bedford Fenwick, of London, at present editor of the *British Journal of Nursing*. Alawys progressive and, if need be, aggressive for the cause of education for nurses, Mrs. Fenwick made the suggestion, which was favorably received by the organizers of the congress, and Dr. John S. Billings, of Washington, the chairman of the section, gave it his cordial support, appointing as chairman Miss Isabel A. Hampton, afterward Mrs. Isabel Hampton Robb, superintendent of nurses and principal of the training school for nurses at Johns Hopkins Hospital. Miss Hampton took part in one of the general sessions of the congress and read a paper on "Educational Standards for Nurses."

Other women spoke clearly and fearlessly of existing evils or of prospects for the future, but in each instance gave evidence of an ethical training and a mind disposed to be loyal to any higher authority. There were sessions where members of the subsection met with the hospital section and others where they met by themselves for freer discussion and counsel. It was an opportunity not hitherto enjoyed by nurses in this country, and they made the most of it. Papers were written and read by them showing they had the same problems, many of which are being studied at the present time and some of which still stubbornly remain unsolved.

The nurses present were earnest, thoughtful women at the head of important schools in this country and Canada, or they represented district nursing bodies (not so well known then), or they were missionary nurses, all having the courage of their convictions.

In the light of developments of recent years, Miss Hampton spoke with the gift of prophecy, for from her paper we get our first intimations of a three-year course, of an eight-hour system, and of possible affiliations of the larger schools with the smaller ones, for she says, "In considering standards of education for nurses, we must not overlook the smaller hospitals, cottage hospitals, etc., for they have their work to do as well as the large institutions, but that they are in no position to offer adequate teaching or experience to a woman who would become a thorough nurse is very evident. How, then, can we meet the problem of supplying good nursing and at the same time making good nurses? It can be met only by the larger schools entering into arrangements with the smaller schools to supplement their teaching."

She spoke also of the qualifications which should be possessed by the young women presenting themselves to be taught nursing. Today the superintendent talks about the same conditions as entrance requirements, and is praised or blamed according to the opinions of the onlooker, who is quite likely to be without the slightest knowledge of the subject. She presented for the first time in public in this country the idea of a three-year course for nurses in connection with the eight-hour system.

Florence Nightingale, too, wrote for the conference, though not present. She said in part, "Nursing proper can be taught only by the patient's bedside and in the sick room or ward. Neither can it be taught by books, though these are valuable accessories if used as such; otherwise what is in the book stays in the book." And, again, "What is training? Training is to teach the nurse to help the patient to live. Nursing the sick is an art, and an art requiring an organized, practical, and scientific training, for nursing is the skilled servant of medicine, surgery, and hygiene. A good nurse of twenty years ago had not to do the twentieth part of what she is required by her physician or surgeon to do now. The physician prescribes for supplying the vital force, but the nurse supplies it."

Miss Dock discussed the "Relation of Training Schools

to Hospitals." She said, and truly, that which it is well for the hospital to remember when pluming itself on what is accomplished for it by its training school, "The training school idea did not originate within the hospital, but was grafted on it by the efforts of a few inspired ones outside, who saw the terrible need of the sick, who knew the inadequacy of the care they received, and who bravely knocked at the hospital doors, first closed, but gradually opening more and more widely. The first attitude of the school was, therefore, that of an applicant and its work experimental. After a few years' trial it has so well proved itself that the hospital is now the one to hold out inducements. On the internal dissensions that sometimes mar the relations of the training school and hospital, there are, broadly speaking, two sources-one is a week government of the school itself, the other is the failure to separate clearly the medical and the nursing provinces. On one field only does the school properly come under the command of the medical profession, and that is in the direct care of the sick. Here, indeed, the command is absolute. The whole purpose of the school centers around this point, and the pride of the well-drilled nurse is to make this service perfect."

A short survey of the nursing status and the conditions leading thereto in England was given by the Hon. Mrs. Stuart Wortley. Her paper was largely historical, but it must also have been inspiring, for it recorded the efforts of devoted women, whether in civil or military hospitals, in cottage hospitals or the vast ones under municipal control, whether in epidemics or in times of quiet routine service.

We might go on down through the program of that first convention of nurses, finding that it was really international, for there were messages from many parts of our own country, from Great Britain and countries on the continent of Europe, and even from Japan, which was then, in a sense, more distant than it is today.

Almost every phase of hospital work was discussed, but we are especially interested in those which outlined possibilities for national organizations of nurses, and we find in all instances that the promoters spared neither their time nor their strength, but gave unstintedly, having as their avowed purposes, expressed in their own language, "to advance the standing and best interests of nurses, to cooperate with them, and to place the profession of nursing on the highest plane attainable.

With this as their motto, they decided not to fall backward, but to continue and increase their knowledge of each other and the work of nursing by the formation of an association of superintendents of training schools, and we are told that the idea was so cordially received by those to whom it was presented that one of the superintendents of a Chicago school invited those present to meet in her sitting room to talk it over, with the result that the next day saw the beginning of the society long known as the American Society of Superintendents of Training Schools for Nurses, having as objects (1) to promote fellowship of members, (2) to establish and maintain a universal standard of training, (3) to further the best interests of the nursing profession.

This was the beginning of the preliminary organization which decided to call a convention of training school superintendents to be held January 10, 1894, in New York, and which elected as president Miss Alston, Mt. Sinai Training School, New York; first vice-president, Miss Davis; second vice-president, Miss Palmer; secretary, Miss Darche; and treasurer, Miss Drown, Boston City Hospital. There were some committees appointed and the meeting adjourned.

The first meeting of the convention was held in the Academy of Medicine, New York City, at 10 a. m., January 10, 1894. There were forty-four superintendents present, and Miss Alston conducted the meetings. The number present represented a large gathering, inasmuch as the great body of superintendents were at that time unknown to each other.

They were called on to mourn the loss of Miss Katherine L. Lett, one of the original promoters of the society, who passed away the previous November.

They had some substantial encouragement, notably that given by Miss Perkins, a retired superintendent of the school at Bellevue Hospital, New York City. Miss Perkins believed in the movement, even though she could not, by reason of the proposed constitution, become a member, she not being a trained nurse. She says in a letter to the Secretary: "Though a superintendent of the Bellevue Hospital for twelve years, I am not a graduate of any school. My assistant has always been a graduate, fully competent to give theoretical and practical instruction to the nurses, and on me, with the advice and assistance of the managers, devolved the executive work of the school. Under this arrangement the school increased and prospered, but it should not be considered a precedent, as the circumstances which rendered my appointment necessary at the time cannot probably occur again, and I entirely approve of the resolution that a superintendent should be a graduate of a training school of good reputation."

The committee previously appointed for the purpose presented this report, and a constitution and by-laws were formally adopted. The objects of the society, as laid down in the constitution, do not differ materially from those previously mentioned, though perhaps a little more comprehensive.

The article on membership is particularly interesting, and specifies:

There shall be four classes of members: (1) active members, who shall be superintendents of training schools for nurses, resident in the United States and British America; (2) associate members; (3) honorary members, and (4) corresponding members.

The active members shall be graduates, in good and regular standing, from training schools giving not less than a two-year course of instruction, and must be past or present superintendents of training schools connected with incorporated and well-organized general hospitals.

Associate members were assistants to superintendents who had served two years in such capacity and were also graduates of schools like those from which the active members graduated. They were members only during such service.

Papers were read and discussed, and those calling for the most discussion and the greatest difference of opinion were on lengthening the course to three years and a nonpayment system for pupils in training.

Again the subject of alumnæ associations for nurses received a share of attention.

The society enjoyed some pleasant social functions in New York City.

After the election of officers, when Miss Linda Richards was chosen president for the ensuing year, the convention adjourned to meet in Boston in February, 1895.

"To simplify procedure, to abolish divided responsibility, to define clearly the duties of each head of a department and of each class of office—to hold heads responsible for their respective departments, is necessary for success in hospital work."—Cook's Life of Florence Nightingale.

COMFORT, AND HAPPINESS.

Sensitive Nature of Woman Violated by the God Fashion-Men Are Left to Nature-Corsets, Collars, and Shoes Woman's Undoing-Doctors and Nurses Should Help Mold Proper Styles.

BY HOWARD MOORE, M. D., F. A. C. S.,

Orthopedic Surgeon to Newton Hospital; Assistant Orthopedic Surgeon Massachusetts Homeopathic Hospital; Instructor in Orthopedic Surgery Boston University School of Medicine.

Fashion in the clothing of men, women, and children might easily be accorded a high place as a factor in preventive medicine. If the clothing is sane and sanitary, good health should be greatly aided; but if the fashion should happen to be hysterical and accentuated in any one direction, the health of a whole generation, or even of a whole race, might be unfavorably affected.

If the modern hospital, and what it stands for, is to blaze the way for the future of all our people in the things that go to make up health and comfort and happiness, the doctor and the nurse must do their part to bring our ways of living, our habits and customs and fashions, back to the simple ways-ways that at the least will not outrage nature.

It is something of a mystery, yet nevertheless a fact, that Fashion has seemed to decree regarding the garments of men a fairly healthful and sensible manner of dress, but, regarding the dress of women, Fashion seems to have done about all she could to the contrary. To be sure, styles change markedly in men's dress, and certain changes reflect discredit on the sterner sex, but for the most part the changes are not such as materially interfere with the body as a machine. On the other hand, it does not seem to matter to Fashion what shape God intended woman to have; one season the waistline will be high, the next it may be low, and the following season there may be no waistline at all. Then big hips and a small waist may be the thing, and, again, the following year the proportion may be reversed; so we hear from season to season about straight fronts, high busts, low busts, hips and hipless, the military posture, the New York slouch, etc.

Dress, instead of being fitted to the form, demands that the form shall suit itself to the varying styles of dress. As the hermit crab selects the shell of a whelk and grows to its shape, so does woman grow with the fashion; but, no sooner has she acquired the desired form than Fashion demands another, so that it is surprising that the antique girl of many periods does not exhibit a well-turned body resembling a corkscrew.

"Tainted to the core with vanity and as ignorant of all that it were better for them to know, dissatisfied with themselves as God made them, think to amend His work by the devices of French artists or their imitators, who dare in their specious glossing venality to impugn, as it were, the very relation of the Creator and His creation, professing to know far better than Nature how the form of woman should be made, yet, far from making them better things than women, they transform them into far less natural creatures than monkeys."

So, therefore, the American woman has come to be a type which differs widely from the savage woman, who wears no clothes, or, if any, such is in no way limit natural functions of the entire body. High, tight collars have produced a long, slender neck, angular at the base; the shoulders droop from the weight of clothes; respiration has been changed; the waist has been made smaller and the hips larger, and even the curves of the spine altered

FASHION-THE MOLOCH OF WOMAN'S HEALTH, by the corset; and last, but by no means least, the mechanism of the feet has been so altered by shoes, and their function so perverted, that the carriage and gait have become awkward and unnatural (Fig. 1).

> Ninety-nine percent of the women who change their style of dress from season to season do so for no other reason than that they wish to follow Fashion's dictates. A woman will make herself appear not only ludicrous, but hideous, by dressing in clothes which are in no sense becoming, if she can but be in style.

> Now, the practical point of this message is just this: the human machine may be safely covered up with as varied styles of dress as one can conceive if the dress does not change the form or otherwise interfere with the normal working of the machine. A skirt may be full one year and tight the next, or the sleeves may be tight one season and full either at the top or bottom the following year, and so on, but damage must result if the variations in dress are such as materially change the form of the body or interfere with its normal working.





Fig. 2.

It has been demonstrated beyond the slightest question that not only does the body depend for its greatest efficiency on normal form and posture, but also all of its vital organs are dependent for their support and their best function on the same thing. It must be apparent, therefore, what great danger lies in some of the tremendous changes that have been made in the styles of woman's dress within the recollection of even the younger generation.

It is interesting to note that, while woman uses these elements of dress for the purpose of adding to her attractiveness, as a matter of fact the result is exactly the opposite of this. The collar tends to cause the disappearance of the subcutaneous adipose tissue which gives the neck its smoothness of contour, leaving it long, scrawny, and angular. A well-fitting corset may produce a straight front, but it so weakens the abdominal muscles designed to do this very thing, if given half a chance, that when the corset is removed, the abdomen bulges out (Figs. 13, 14).

Woman wears a shoe shaped not at all like the foot, and very much too small, because she wishes her foot to appear neat and small; but such a shoe is tending all the time to relax the structures in that foot, which will allow

it to spread out; it is tending all the time to so alter the circulation that puffiness and swelling will result; and it is so altering the form and mechanism of the foot that a natural and graceful gait or posture will be impossible. Compare the gait of a child in bare feet with that of a woman wearing tight, pointed, high-heeled shoes. The foot was designed for service—not as an ornament. But,



Fig. 3.

still, is not the foot of a child a more beautiful thing than that of a woman, when the latter possesses, say, a puffiness around the ankle, a turning outward of the great toe, with a large, inflamed bunion, and a corn on the dorsum of each toe?

These elements of dress being, however, for a time at least, necessary evils, the questions to be answered are



Fig. 4.

what types had best be worn, and what can be done to offset the disastrous effects produced by their use. The present manner of dress has been handed down through generations, with changes only in the style of the garments—not in the essential principles of the dress; so that to attempt to change it in any radical way would be like attempting to change the leopard's spots. Only by uni-

versal education can the desired change in dress be brought about. When all women, instead of a few, know how artificial many of them are, then only will the style be changed. There is at present progress being made in the right direction, but too slowly, as will be shown.

There are other elements in woman's dress which are physiologically not good; but the collar, corset, and shoe are the most far-reaching in their consequences, and it is against them that special attention will be directed.

Fig. 2 is a caricature representing the god Fashion smiling on his victim, because he knows what he is doing to the poor thing, if she doesn't know herself. Fig. 3 represents some of the marked changes that have been made in dress in the last fifty years, beginning with the hoop skirt, then the atrocious bustle, the balloon sleeves, the hourglass corset, and the popular tailor-made girl.

There are doubtless many women who would deny that any possible harm could result from a collar; there are probably few who ever thought of any effect. A great



Fig. 5.

many things do, however, result from this member of woman's dress. If a woman is asked why she wears a high collar, she will almost invariably give one of the four following answers: first, it dresses the neck, adding to its attractiveness; second, it serves to cover her neck, which is not considered beautiful; third, it is a protection; fourth, Fashion says I must. Certain it is, however, that no collar is more attractive than a well-shaped, beautiful neck, nor is it essential that it be anything but large enough, low enough, and flexible enough for absolute comfort to answer the last three arguments. If a comparison is made between Figs. 4 and 5, it must be apparent that not only is the appearance of the wearer equally good without the high collar, but her comfort and her efficiency must be greater without that handicap.

It is a regrettable fact that certain occupations, by custom or otherwise, require the wearing of a collar which interferes materially with the efficiency as well as the

comfort of the wearer. This reference is made principally to the collar worn by nurses. Nurses' work is hard work, and work which requires more or less freedom of action of the body. It is oftentimes pitiable to see a nurse who has had a hard day's work bending over a patient with face reddened and congested, due to almost nothing but the collar. The writer realizes the difficulties that stand in the way of a material change in this respect. The uniform is more or less sacred, and by custom a collar seems a necessary thing. Then, too, it is not always possible to find a manufacturer on whom one can depend to supply a certain collar if the style changes during the next season. This is a field, however, to which a great deal of attention should be directed, and, if possible, a collar designed and adopted which will not only be more comfortable for the wearer, but more hygienic. The regulation collar which is worn in the training school at the Newton Hospital and the kerchief which is worn during the warm weather are shown in Figs. 6 and 7. Does not the ap-

Fig. 6.

pearance of the girl in Fig. 7 suggest a finer spirit and likelihood of greater possibilities for efficient service and without the suggestion of lack of dignity? Now, with regard to dignity—can there not be as much dignity in dress appropriate for service as in a dress of fashion or custom?

A collar which is stiff, tight, and high weakens the muscles of the neck, accounting for many of the lame necks complained of; it tends to interfere with the return flow of blood from the head, which means passive congestion, and accounts for many of the chronic headaches from which women suffer; it interferes with local circulation, tending to a lessened resistance and increased tendency to contracting of colds and sore throats; it destroys the subcutaneous adipose tissue, which is the protection Nature supplies and which gives the neck its smoothness of contour and beauty.

The so-called Dutch collars are ideal in that they give

Nature a chance, and are at the same time attractive (Fig. 8). But if a woman fears a possible draft on the back of her neck, or if she considers her neck not sufficiently beautiful to have it exposed, or if she feels that she will not be considered well-dressed unless she listens



Fig. 7.

to the dictates of Fashion—which says that high collars shall be worn—then let her put on a collar which will cover her neck. But don't put a size 12 on a 13 neck. Don't put a collar 3 inches high on a neck which is only 2½ inches long; don't have it so stiff that no motion will be allowed in the neck, unless there be a pathological condition in the neck which demands the use of a splint.



Fig. 8.

The performance of the functions of the thoracic, abdominal, and pelvic viscera depend largely on normal posture, freedom of expansion of the thorax, the proper action of the diaphragm, freedom of motion in the lower spine, tone and strength in the abdominal muscles, and

freedom from constriction about the waist; every one of these is interfered with to a greater or less extent by the corset.

Recently it has been learned that many of the rheumatisms, those caused by autointoxication from fermentative processes in the alimentary canal, are due to stomach ptosis. When the posture is altered, and the abdominal



Fig. 9.

wall has become weakened and the stomach has lost part of its support, it begins to settle down lower in the abdomen than is normal, and, because the duodenum is fixed, there is formed a pocket in which the half-digested food remains, ferments, and causes finally autointoxication.

Normally, the abdominal cavity is barrel-shaped, and



Fig. 10.

its upper boundary is higher than is usually realized, coming almost to the nipple line. Its greatest lateral diameter is at the level of the lower ribs. The upper part of this cavity is filled solid full of large, vital organs—namely, the liver, stomach, pancreas, spleen, and directly below these are the kidneys and small intestines. When

a corset is put on which reduces the size of the waist and compresses the cavity at the level of the lower ribs, these organs must be pushed from their normal positions, and this, of course, cannot take place without the position and support of the contiguous organs also being disturbed. To these effects of the corsets we can add interference with grace, sacro-iliac weaknesses, postural back strain, pendulous abdomen, and abnormally large hips.

Fig. 9 shows Venus de Milo, whose torso has been considered by most authorities as being ideally proportioned, and some of the modern attempts to improve on the figure. Fig. 10 illustrates a number of models of corsets in style during the season of 1912, and a comparison of these with Fig. 11, which is a group of models in style during 1913, shows the marked change in form to which the body was made to adapt itself during the short space of one year. While the models of 1913 were better in many respects, indications at the present time point to a return of the smaller waists in the very near future. Fig. 12 illustrates some of the attitudes which have been taught by dressmaking establishments because it was felt that they





Fig. 11.

Fig. 12.

produced a better effect as regards the appearance of the gowns. Is this a great step forward in civilization from the distortion of the feet which was practiced by Chinese women, and which is now looked on as most heathenish? Certain it is that such variations from the normal with respect to posture lead to far more serious disturbances in the efficiency of the individual as a machine than the distortion of the feet which the Chinese women practiced.

It is hardly possible to design a corset which will maintain normal posture, which will allow full expansion of the chest, which will support the bust and abdomen, and allow perfect freedom of motion in the entire spine, and at the same time allow an appearance of being well dressed, as the term must be used, but it is very simple to design one which is very much superior, both as regards hygiene and appearance, than is being worn by the majority of women today.

[To be continued.]

With the exception—if it is an exception—that hospitals can best cope with emergency cases, the prime reason for sending a patient to the hospital is that he may have good nursing.—New York Medical Journal.



Fireless Cookers for Hospitals.

To the Editor of THE MODERN HOSPITAL:

Is it advisable to use fireless cookers for the preparation of food for hospital patients? We are thinking of buying one, and would like to know the experience of others and something about the scientific side of the subject.

H. T. B., New York.

There is no doubt that fireless cookers will prepare some items of hospital food better than they can be prepared in any other way; for instance, the cereals. There is no doubt that also meats cook tenderer in fireless cookers than otherwise, and also vegetables; indeed, almost everything that is cooked would be better, especially for sick people, if it were cooked under the slow, low temperature conditions of the fireless cooker. You should get one, but get a good one and one that will cook several articles in it at one time, and get it of metal and not of wood.

The subject of fireless cookers is a very important one; so much so, indeed, that The Modern Hospital has now in course of preparation a series of articles on the use of the fireless cooker, by one who knows all about the fireless cooker in theory as well as in practice. These articles will begin to run in February or March, and it is intended that they shall cover, not only the theory and practice of fireless cooking, but a great number of recipes and detailed directions for the cooking of various articles.

North Light for Hospitals.

To the Editor of THE MODERN HOSPITAL:

Is it absolutely necessary to have north light for operating rooms? Our surgeons say it is, and, as we are building, we would like to have this matter settled authoritatively. We have all agreed to refer it to The Modern Hospital.

A Superintendent, Ohio.

North light is very highly desirable, and is a good thing to have. Laboratory men think they really must have a north light to do daylight microscopy, but, as a matter of fact, excellent work is done with light from other directions. I think surgeons are really exaggerating the desirability of north light. There are other factors in the location of the operating rooms that are very much more important, as, for instance, the conveniences of administration, so that the various details of the operating suite shall be in such relation to each other that the department can be economically handled; and, again, there may be room enough at a north end for only one operating room, and it would be very much better to have the second operating room fronting to the east or west, or even to the south, than to have the second operating room on another floor. Suppose, for instance, we are to have two operating rooms, and we have room enough for only one at the north, but there is space for a second room to face to the east immediately adjoining the first room. There could be a top light for the second room, and a shade could be employed to shut out the sun in the case of early morning operating; and, if the second room were on the west, the shade could

be employed to shut out the afternoon sun, and the light from overhead would be abundant. So many things can be done with shades and with overhead lighting that there should be no difficulty about getting what your surgeons need without sacrificing the economic administrative necessities of your department. A good deal of the demand for north light by surgeons is due to an almost unbroken precedent.

Location of Operating Room.

To the Editor of THE MODERN HOSPITAL:

Our nose and throat surgeons insist that their operating room must be in close proximity to the nose and throat wards because of the danger of tonsillectomies bleeding on their way back to bed. The other surgeons think there is less reason why the nose and throat cases should be near the operating room than that laparotomies should be so situated. What does The Modern Hospital think about this?

D. W. T., West Virginia.

It has been only a few years since tonsils were removed in out-patient departments and dispensaries, and patients were permitted to go home after one or two hours' rest. Undoubtedly the practice still obtains in many dispensaries. It is wrong, of course, because tonsils do bleed sometimes severely and often dangerously, but they very rarely bleed badly at once, and in most cases severe bleeding does not occur for several hours after operation. The practice of removing tonsils in dispensaries has been discontinued in most dispensaries and out-patient departments because there were so many patients that started up a hemorrhage hours after going home. There is no reason why a nose and throat operating room should be located nearby the wards to which patients are sent after-There are far more reasons why laparotomies should not be moved far than there are in the case of tonsils, or any other nose and throat operations. As a matter of fact, the question of distance from the operating room is exaggerated by most persons. It really does not make so much difference whether a patient goes 30 feet or 300, or whether he must be taken down an elevator and across two corridors, or whether he must be taken down one elevator and along a corridor and up another elevator. The main thing is that patients during removal should be handled very carefully. They are asleep, and should be moved by an orderly, accompanied by a nurse and one of the house doctors, who can take every precaution along the way to see that patients reach their beds in good shape. It is very much more urgent that patients shall be comfortably and conveniently located after they reach their beds than it is that they should reach them in a hurry. For the same reason, recovery rooms adjoining the operating suite are worse than useless. Usually patients remain in these rooms until they entirely recover from the anesthetic, and are sore in every part of the body, generally weak and often nauseated; then it is a serious thing to move them. For that reason they should be taken at once from the operating table and put to bed where they are going to remain.

Proportionate Cost of Equipment.

To the Editor of THE MODERN HOSPITAL:

Will you please tell me what proportion of the cost of construction of an average hospital should be allowed for equipment? Does equipment include laundry machinery, lighting fixtures, steam sterilizing apparatus, and cooking apparatus?

HOSPITAL ADMINISTRATOR.

By equipment we mean the portable things—furniture, dishes, linens, cooking and nursing utensils, garbage cans, wheel carts, shades, and the thousand and one things that must be bought and put in after the architect gets out, if he ever does get out until you throw him out. Laundry

machinery, sterilizers, and such cooking apparatus as the range, boilers, toasters, steam tables for serving rooms as well as kitchens, whatever ventilating plant is put in, the plumbing, steam fitting, radiators, and the power plant, are what we call permanent installation—that is, they are integral parts of the building and are counted in as part of the architecture. We can give some proportions of cost of some of this permanent installation in percentages. For instance, let us take a \$100,000 hospital: a fair average price per cubic foot of the space occupied, including foundations, would be about 32 or 33 cents, and that would include all this permanent installation. In such a building the plumbing, including enameled iron fixtures, would cost 2½ cents. If the building is very small, the cost would probably go to 3 cents.

A low-pressure vacuum steam-heating system, including steam for the laundry, cooking, sterilizing, including also the high-pressure boilers, would cost about 2½ cents.

The electric wiring, signaling system, telephone installation, etc., would cost less than 1 cent.

In such a building as we are thinking about, the sterilizing apparatus, including water, dressing, utensil, and instrument sterilizers, would cost about \$1,500.

A five-ton refrigerating and ice-making plant would cost about \$3,000, and an installation for refrigerated drinking water would cost about \$1,200, and perhaps \$300 would have to be added to this if cold water drinking fountains are placed in the wards.

The expense of the movable things which we call equipment can be made anything you choose, but you will be safe in figuring on a basis of about \$200 per patient to get the very best results. For instance, if your hospital has a capacity of 100 beds, if you can afford to spend \$15,000 or \$20,000 on your equipment, you will make money in the long run. This would give you a large quantity of linens-for instance, sheetings, blanketings, a great quantity of dishes, and other supplies that can be bought in large quantities at far lower price than if you bought in small quantities; and, of course, this amount of money would carry you along in the operations of your hospital over a good long period of time. Some of the best housekeepers in the country say that bed linens get "tired"-that sheets need a rest on the shelves, as do also blankets. Of course, all the good that you had hoped to do in buying in large quantities will have been for nothing unless your storekeeper is "stingy" in giving out supplies. Where nurses think they can get anything they want at any time, they are certain to want it, and they are certain to break it or tear it, or use it up very much quicker.

The Theory of Fowler's Posture.

The propped-up position in the after-treatment of patients who have been operated on for any condition of acute peritonitis is firmly established in favor with surgeons. But according to Dandy and Rowntree, who have published some researches on the absorption of fluids from the peritoneum in the Annals of Surgery, the theoretical advantages which Dr. Fowler sought to secure by his posture rested on two assumptions which have been proved to be quite false. These assumptions are that absorption from the peritoneum takes place into the lymphatic system, and that it is most active on the surface of the diaphragm. Dandy and Rowntree demonstrate that absorption is almost entirely into the blood stream, not into the lymphatics; the once famous stomata on the surface of the peritoneum are discredited as artefacts. Also that the visceral peritoneum absorbs fluids freely, as well as the mural layer. Absorption is equal in all postures except

pelvis down, in which it is 15 percent less than in others. Although, therefore, Fowler's posture was based on entirely fallacious views and reasoning, it does all the same result in slightly less active peritoneal absorption, and may therefore be useful in practice for this reason.—The Hospital, London, July 18, 1914.

Medical Staff Organization.

Just because we have trouble with the medical staff organization in our hospital is no reason why a wellorganized staff is not the best thing for a hospital. There is nothing like reposing responsibility in people to get results. No one ever hears a trained hospital administrator or an efficient trustee deplore the existence of a medical staff. But we have learned a lot about medical staff organization in the last few years, and we have learned that members of medical staffs are just human beings like the rest of us, and are looking for personal advantage. One of the most discouraging and unhopeful signs in a hospital is to find the medical men taking no interest in what is being done and how it is being done. Let us not be carried away by rosy pictures painted by laymen, who are wholly inexperienced in hospital administration, concerning the smooth operation of hospitals that have no regular medical staff. There must have been a horrible situation in any hospital that can be improved by the dissolution of the medical staff. If the staff is not right, reorganize it and make it right, and don't leave things hanging in the air, so that every individual case that comes up can be made the subject of a controversy by various members of the staff. Every member of every medical staff who is worth while will want all the good cases he can get. The best way is to get your medical staff to help you create an organization that will work smoothly. Don't have nine or ten services, and don't have everybody giving orders. In private practice there are really only four major services-medicine, surgery, obstetrics, and children. Better organize your whole staff around these four, and have every patient admitted to one or other of these services. Admission rooms are not places in which to make differential diagnosis. All that is expected, and should be expected, is to make a sufficient diagnosis for purposes of assignment of the patient to the proper place. In private practice, neurology, dermatology, the nose, throat, eye, and ear specialties, orthopedics, gynecology-all these are what we call reference specialties. When a person gets sick, he doesn't go to a specialist; he goes to the family doctor, and the family doctor will refer the case if a specialist is required. Why should not the same thing be true in the hospital? These specialties are not services at all.

But it seems the major service men are ambitious enough sometimes to think they know the specialties also, and are disinclined to refer patients to men who have been trained along certain limited lines. ought to be broken up in the hospital, and the major service men, by reason of the fact that we are giving them all the patients for purposes of diagnosis, ought to be more than willing to refer cases that call for the learning and training and experience of men who are spending their lives on a narrow class of cases. Major service men who will not refer cases properly and promptly are hurting the hospital, because patients are entitled to the care of these specially trained people. If the major service men knew what was good for them, they would be glad to have all patients go through their hands for diagnosis and differential diagnosis, to be then passed along to the specialists.



Any questions regarding equipment or other matters connected with the kitchen and dependent departments of food storage and service will be answered in this department. Address communications to THE MODERN HOSPITAL, Kitchen Department, Metropolitan Building, St. Louis.

The Ward Hot Table.

These tables, in the majority of cases, have been made with cupboards below for plates—white enamel or copper tops, with the vegetable jars and meat platter. At one side is a gas hot plate, with a toaster below it.

Being close to the floor makes cleaning below the hot table very difficult, and the nurses have to stoop low to get the plates, and cannot see to the back of the warmer without getting down on their knees.

The best type of ward table stands upon legs, and has only an open metal shelf below, which is a convenience for storing utensils, while the space between the shelf and the floor allows ample room to clean the floor. The steam table pan is of heavy copper, supported upon an angle-iron frame to prevent sagging. The top is of white porcelain enamel, and over the whole is a plate warmer, with sliding doors. At one side is the gas hot plate, with a toaster below.

The best type of these warmers is covered entirely in white enamel, held in place by German silver or nickeled steel bands. The effect of silver and white gives a handsome appearance, besides being easily kept clean, owing to dirt being easily visible.

The heating can be either by gas or steam, the latter being preferable. Where electricity can be had at a low cost, it is practical to use it in place of steam for the steam table, the hot plate and toaster, and for the plate warmer. Owing, however, to the necessary insulation to preserve the heat and the high cost of the electrical units, the cost of the apparatus fitted for electricity is very much higher than for steam heat both in purchase price and upkeep.

A Model Small Hospital Kitchen.

The kitchen equipment plan illustrated in Fig. 1 shows a nearly model arrangement for a small hospital. The dishwashing is arranged alongside the dumb waiters and the door, so that it is not necessary for the help to enter the kitchen proper. A hand dishwashing machine and a steel scrap table are indicated. The arrangement is such that none of the incoming service crosses the path of the outgoing. The bake shop and store rooms are separate, and can be locked up, and ample work table space is provided.

The plan gives the description of each piece of equipment, so that farther description is unnecessary.

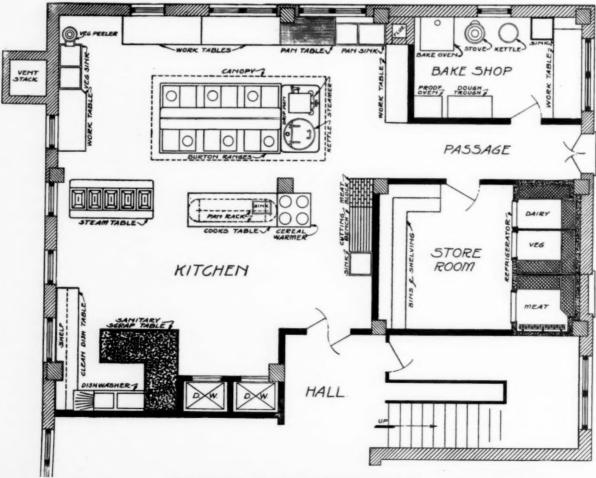


Fig. 1. Kitchen equipment for a medium-sized hospital

Ward Kitchen Utensils.

The following is the list of small utensils specified for the ward kitchens in the new Cincinnati General Hospital:

- 1 French drip coffee pot, 1-pint, heavy tin.
- 1 French grip contect person heavy tin.
 1 ice crusher.
 4 patent ice cream dippers, 10 to quart, for serving vegetables, etc., as well as ice cream.
 1 French strainer, medium brass wire mesh.
- wire mesh. own earthenware teapot, 1-
- 1 ice cream packing can and bucket, 1-gallon.
- bucket, 1-gallon.

 1 compartment spice box, 6 boxes in each compartment, covered and stenciled, 9\% x6\% x3\% inches deep, white japanned.

 1 glass lemon reamer.

 1 long-handled kitchen fork.
 2 short-handled kitchen forks.
 2 dover egg beaters, small and

- 2 dover egg beaters, small and large.
 2 6-inch Sabatier cook knives.
 1 pierced ladle, 12½-inch.
 1 retinned forged basting spoon, 12-inch.
 1 wood spoon, 8-inch.
 2 4-gallon garbage cans.
 1 scrap pail.
 1 bread chest, white enamel, 10x20 inchest.

- inches.

 1 cake chest, white enamel, 10x15 inches.

 1 canister, stenciled, sugar, 2-pound.

 1 canister, stenciled, flour, 2-pound.
- stenciled, salt, %-1 canister.
- pound.

 canister, stenciled, tea, %-pound.

 canister, stenciled, tea, %-pound.

 canister, stenciled, soda, %-pound.

 canister, stenciled, coffee, 2-pound.

- Cincinnati General Hospital:

 1 aluminum teakettle, 7½-quart, No. 118.
 2 aluminum measuring cups, ½-pint, No. 180.
 1 aluminum heavy fry pans, 11½ inches diameter, No. 457.
 1 aluminum heavy fry pan, 14 inches diameter, No. 414.
 1 aluminum saucepan, long handle, 8½-quart, No. 510.
 1 aluminum double boiler, 7-quart, No. 918.
 1 aluminum double boiler, 2-quart, No. 141.
 1 aluminum ladle, No. 360.
 2 aluminum taper teapots, 3-quart, No. 45.
 4 aluminum tablespoons.

- aluminum tablespoons. aluminum teaspoons
- aluminum egg poacher to poach aluminum egg poacher to poac 12 eggs. spatula, 8-inch. vinegar cruets, 1-pint. toaster, 10x17 inches. Surprise egg whip. white enamel pitcher, 1-gallon. mixing bowl, 4-quart, brown earth-onware.

- 1 mixing bowl, 4-quart, brown earthenware.
 1 mixing bowl, 2-quart, brown earthenware.
 6 ramekins, ½-pint.
 6 custard egg cups, ½-pint.
 1 aluminum bowl, 1-pint, No. 861.
 1 aluminum shallow bowl, 1-quart, No. 292.
- 1 aluminum deep bowl, 1-quart,
- No. 293.

 aluminum flat plates, 8% inches diameter, No. 895, for use in refrigerators.

 aluminum pitcher, 2½-quart, No. 955.

Hand vs. Power Dishwashing Machines.

The principle on which any dishwashing machine, hand or power, must work is the passing over the surface of the dirty dishes of hot water and soap suds not over 190 degrees of heat, and the subsequent rinsing and sterilizing of these dishes in clean water at 212 degrees of heat.

When a great number of dishes is to be washed, the weight of the dishes to be moved to and fro through the water and the quantity of water to be pumped over the dishes necessitates power, but, where a small quantity of dishes is to be washed, one basketful after another can be agitated in the water by hand by the attendant, who otherwise stands idle while power does the agitating.

For a quantity of dishes not exceeding 1,500 per hour, hand power produces the same results as power, and eliminates the cost of the motor, the pump, and the current to run it. For 2,000 dishes and upward per hour, power is advisable, and additional attendants are required to handle the work as the number of dishes increases.

The claims made that power is advisable for all dishwashing machines should, therefore, be qualified by stating for all dishwashing calling for over 2,000 dishes per hour.

LETTERS TO THE EDITOR.

A Correction.

To the Editor of THE MODERN HOSPITAL:

In the rush of correcting the proof of our advertisement in the December issue of The Modern Hospital, we allowed an error to escape, stating that the Evanston Hospital had purchased \$15,000 worth of sterilizers from us. So far as we know our original copy for this advertisement read \$1,500 worth of sterilizers-not \$15,000. In justice to ourselves, and in order that there may be no misconception, will you kindly call attention to this error in the next issue of your esteemed journal?

THE HOSPITAL SUPPLY COMPANY.

L. L. Watters.

Demands of Nursing.

There are three great demands on the nurse which summarize the requirements expected of her. They are science, sympathy, and cheerfulness. Science comes first, for the standard of a hospital is usually measured by the character and efficiency of its nursing staff. The trained nurse has come to be regarded as quite as essential to the welfare of the patients in any medical or surgical case as is the operating surgeon or physician. She must, therefore, have a firm, minute grasp of the application of the laws of health in the fields of nursing.

Then, too, her ear must be attuned to catch the groan of the sufferer, her hand must have the magic touch of tenderness to soothe the anguish, and her feet swift to run where duty calls. Although a professional, she must be a woman still.

If the painter must mix brains with the paint, the nurse must mix the sympathy of the heart with her service.

Third, in regard to cheerfulness, the speaker suggested that every nurse commit to memory Robert Louis Stevenson's "Celestial Surgeon." A gloomy nurse is unthinkable. A despondent nurse should never have charge of those who are ill, and a long-faced visitor should be kept outside of the sick room. Courage and cheer must be the morning star ever seen on the countenance of her who takes on herself the task of ministering to the afflicted. Like the minister, the nurse may never grow rich in her profession, as men call riches, but there are compensations of a superior character which they may claim as their own. The joy of a life well spent is one of the dearest possessions of the human life.-Rev. Walter Aitken at Brokaw Hospital Training School, Bloomington, Ill.

The Feeding of Hospital Nurses.

The Daily Telegraph has given publicity to a letter from a layman who asseverates that hospital nurses in certain unnamed institutions are not properly fed. The complaint, he says, is not usually that the food is insufficient, but that it is badly cooked and roughly served; and he protests indignantly against such a state of affairs. According to our judgment, there is substance in these accusations, though, happily, less than there used to be; even in the last ten years there has been a notable improvement in the food provided for hospital nurses. To some extent this may be ascribed to the adoption by so many hospitals of systematized accounts on the uniform system, whereby the actual cost of feeding the nurses is accurately ascertainable. As far as our experience goes, we should say that insufficiency of food for the nurses, in quantity or quality, is still met with in a small proportion of hospitals, and that complaints as to unattractive service would be justifiable in a considerably larger percentage. With the Daily Telegraph's correspondent we agree that such a state of things is "utterly wrong," and that it should be reformed. -The Hospital, London, July 18.

The Work of the District Nurses.

The people whom the workers of the District Nurses' Association help are the people who in illness are least able to help themselves. The nurses go into the homes of people who cannot lay money by for a rainy day. They are at the bedside of children just coming into the world. They are eyes for the blind, feet for the aged. And not least of the duties they assume is that of cheering the "shut-ins," to whom there is little of cheer beyond the neighbors' occasional call and the chance reading matter that comes their way.-Toledo Blade, June 19.

HINTS FOR HOSPITAL SUPERINTENDENTS.

A few years ago there was an intern in one of the large hospitals who was rough and gruff, not to say abusive, to patients. After several warnings he was finally told that another incident of the sort would mean his instant expulsion. He stopped the practice and gave no more trouble; but it was always the fear of dismissal and not a change of heart that caused his good behavior. Within a few months after his service was ended he became the victim of a most serious and very painful malady, which lasted several weeks. He was brought to the hospital, where every attention was shown him, and, because he was not a very courageous sufferer, the nurses even "babied" him a good deal. When he was about to leave the hospital, and to thank those who had been kind to him, he remarked to the head nurse, "Well, I've been taught the lesson of my life; I had never been sick an hour until I came here this time; I had never had a pain, excepting the little hurts that a child gets; I used to think patients were 'playing to the gallery' when they groaned and writhed; now I know what pain and suffering are, and hereafter I'll have some sympathy for the sick and hurt." That fellow is turning out to be almost sentimentally sympathetic, and is rapidly acquiring a large practice chiefly on this asset.

There are some misconceptions in the public mind about the underlying principles operating in our maternity departments. When we begin to talk about asepsis and the necessity to get the modern woman into a good maternity hospital for her confinement, we are referred back to the Indian woman and Eskimo and the African negress, who give birth to their babies and go on with their work the same day, and the argument is that the carefulness we are practicing is unnecessary. Of course, this is not true. In the first place, the Eskimo and the Indian woman is an old hag at thirty, pot-bellied and misshapen. In the next place, our women differ from the savage. They wear corsets and shoes that make the Chinese woman's shoes seem harmless by comparison. Our women are high strung and of a far different nervous organization, and we know how intimately associated with the nervous system are the organs of generation and reproduction. If we practiced the obstetrics of the savage on the women of our time, we would have no women left and few healthy babies, and we have few enough healthy babies born as it There is no telling how many of our modern women are rendered sterile after their first child by being taken care of by a filthy, ignorant midwife or an incompetent doctor, and the statistics show that 50 per cent of the blindness in the world is due to the improper care of women at childbirth.

How long has it been since you had your chemical fire extinguishers looked over and recharged? You know, of course, that chemicals deteriorate; you know also that people are likely to upset the extinguishers and destroy their contents. If you really appreciated how many incipient fires these little machines will put out, you would keep them in good order.

Take care of your fire hose, so that it will be serviceable if it is ever wanted. Most interior hose is made of cotton fabric, without rubber. If this fabric gets wet and stays wet, it will soon rot. The wetting may come from a leaky valve in the riser. The constant cleaning of the brass work at the nozzle and at the riser connection is also likely to rot the fabric. The fabric is likely to be rotted also at the folds in the coils. About once a month

a personal inspection of the hose and its connections should be made by someone capable of good judgment in the matter. The fire department of the city or town will always be glad to send one of its higher officers to make this inspection for a hospital. There is a difference of opinion even among fire experts as to whether a hospital should buy expensive hose; the cheaper grades will last just as long as the more expensive if it is not in actual use, and the thinner fabric is likely to be the more flexible, and therefore not so likely to break where the folds come. When the hose is found to be worn or rotted about the brass work, it is easy to cut off a little and rejoin the ends. Never run water through your hose unless there is a fire; then take it off and out into the yard and dry it thoroughly before putting it back. Fire drills can be conducted without turning on the water.

Don't do things in your hospital because they "always have been done." We are in an age of invention and initiative and thoughtfulness. We know a great deal about many things that have until recently been shrouded in mystery; and many things we have been doing in past years we did because we did not know any better, and some of these same things we keep on doing because they "always have been done." Better do some original thinking about the routine practices of your hospital. We used to think that a room full of colon pus smell could be entirely disinfected by the use of a little chlorid of lime or the burning of a deodorant candle. Many of us still practice this fallacious routine in our hospitals. It is on the same par of sanity and intelligence as that employed by the ostrich who hides his head in the sand to keep his enemies from finding him. It is astonishing how many health departments in the great cities of this country are practicing a routine so-called disinfection in the homes where communicable diseases have been, that is known even by those who practice it to be utterly useless. Sit down some quiet evening and think how many useless things you are doing in your hospital-some of them costly either in time or money. Nor will we get very much help in this field from our doctors, who are quite as much the creatures of habit as the rest of us. About onehalf of the things done under the orders of the doctor in a hospital are mere routine and instigated by the force of habit. How many times do your doctors call for urinalysis because it saves them time that ought to be taken up in personal study of their cases, and because they don't know what else to do? And how many times do they go on demanding these urinalyses from day to day when they are utterly useless, and when the doctors themselves would admit their uselessness. Every moment of the time of everybody in the hospital should be employed, but the time should be profitably employed and not in the carrying out of worn-out practices.

The Cook County Civil Service Commission will hold an examination on January 12 for the position of business manager of the tuberculosis hospital. This institution has a capacity of 700 beds, and the business manager has full charge of about fifteen physicians and fifty nurses, and is responsible for the proper conduct of the entire institution. The examination will comprise the following subjects: a written examination consisting of questions on the duties of the position, a written examination on the educational training and qualifications as shown by the applicant's experience in similar positions, and an oral examination. The applicant should have at least one or two years' experience as superintendent of a hospital or institution. Information and applications may be secured by addressing the Cook County Civil Service Commission, 547 County Building, Chicago, Ill.